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Soviet-bound Vax was 'war material'

by George Black

US DEFENCE department officials have claimed that the minicomputer intercepted en route to the USSR would have speeded development of "smart" missiles.

They described the DEC Vax-11/782, seized at Hamburg on its way to Sweden, as a highly integrated package for the design and manufacture of integrated circuits for these missiles.

The US expects to make such technology operational by 1990, but Russia is still 10 to 15 years behind, according to the officials.

Defence secretary Caspar Weinberger put the catch on show at a Washington press conference. He said it would have helped the Russians make "vastly more accurate and destructive weapons" and cited real-time calculation of missile paths as one potential application. Graphics and CAD/CAM enhancements made by Tektronix, System Industries and others were also recovered.

The other half of the consignment, halted in Helsingborg, is now in the hands of the Swedish army. Trade minister Mats Hellstrom refused an export licence after it was classified as "war material". It is unclear if the Swedes will grant a US request for the return of the goods.

US treasury officials have named West German Richard Mueller as instigator of the plot. He was said to control a South African firm claiming to be involved in electronics research, which had sent the Vax to West Germany.

Mueller, who owned a firm called Senutronik at Jesteberg-Weidenlief in West Germany and another at Zug in Switzerland, had been indicted in the US for allegedly committing trade offences.

In August 1981 he and his associate Paul Hermann were banned from exporting for 20 years after being found guilty of false representations under the Export Administration Act. They failed to answer the charges. They had bought equipment from Intertrade Scientific Inc, a US firm trading in semiconductor supplies.

Mueller paid DM984,315 for goods which were then sent illegally via Switzerland and West Germany to Russia. Hermann, president for Fabrik fuer Fein Mechanik und Apparatbau in the Black Forest, claimed to be an OEM, reselling to local users, but was in partnership with Mueller having got into financial difficulty. His firm later went out of business.

The case is recorded in the US federal register.

NIXON . . . Knighted in New Year Honours list.

IBM chief is knighted

by George Black

CHIEF executive of IBM UK Eddie Nixon was knighted in the New Year Honours List – thus revealing to the inquisitive his full name of Edwin Ronald Nixon.

Information Technology Minister Kenneth Baker was recognised by being made a Privy Counsellor.

Jim Hodgson, vice-chairman of British Telecom, is rewarded with a CBE for his performance as managing director of British Telecom International, the money-spinning division that has been the centre of the union revolt over privatisation.

Alan Shepherd, managing director of Ferranti Electronics, and Ronald Newham, engineering director in charge of electronics and defence at Thorn EMI, also receive CBEs, as does Tony Davies, chief executive of Information Technology, in recognition of his shake-up of the Computer Technology (CTL) Group.

Among the MBEs was John Fisher, STC's electronics manager at Newport. An OBE went to John Midwinter, British Telecom's leading expert in fibre-optics and head of its research division.

The assistant secretary at the technical regulations department of the Institution of Electrical Engineers, David Brtec, got an MBE.

ICL set to launch new personal

ICL IS to launch its 8088-ba 16-bit multi-user and multi-ta ing personal computer within next two weeks. It will b colour, will offer Concurr CP/M-86 and will support up four users. It will be compa with the Rair eight-bit micro word processing specia Wordplex is moving into the personal computer market, and PC is set for a January 26 launch

France deal

MATRA, the French defence electronics company, a Datapoint have reached a coll ration agreement covering prod tion of electronics equipment the French market. If approved the French government, produ tion will start this year and plans expand into the rest of Europe under discussion.

Gow goes solo

JOHN Gow has resigned as dep chairman of Systime, the compu he helped set up in 1972. Syste has followed ICL's lead to poached a senior executive fro Texas Instruments, Ron Answ to serve as its managing direct Attwool was Robb Wilmot's successor as managing director o Texas.

Support for Adam

HONEYWELL is to support Qu leco's troubled Adam microcom puter in the US through the mainframe company's service centres. Thirty-five centres are planned for this year. No UK plans have been announced for the machines, which are due for launch here in February.

Thursday, January 12, 1984 Number 893 35p

Tesco sacks 48 – at three hours' notice

by John Kavanagh

NEARLY 50 computing staff were sacked by Tesco Stores last week – including two top men in the company's microcomputer retail business.

All the staff were given just three hours' notice. The company said the sackings were part of a restructuring of the 500-strong computing division – a restructuring which has seen changes at board level.

The 48 jobs were split between the main computer centres in Cheshunt and Welwyn Garden City in Hertfordshire. Programmers, analysts, operators and administration people were involved.

In addition, a top manager and a senior support man in the microcomputer centre were sacked. The centre, part of the computing division, is in Welwyn, where it sells mainly IBM, Apple and Olivetti machines.

"Because of the nature of the work, involving secret commercial information, the redundancies took effect immediately," Tesco said.

The sackings follow a reshuffle of top directors. Just before Christmas Donald Harris, the director in charge of data processing, was moved to strategic planning. Finance director Ralph Temple was made joint managing director and took on responsibility for computing.

The computing division was the only part of Tesco to be hit by redundancies. The company said it would be taking on staff elsewhere in five superstores. It has 49,000 UK staff.

Tesco is one of IBM's biggest customers, having moved from ICL equipment in the late 1970s.

It runs big 3081 and 3033 mainframes in Welwyn and a 3083 and a 4300 in Cheshunt. The company said none of the IBM processors would be removed as part of the restructuring.

WILLOTT . . . Unhappy time at BTG.

Ex-BTG chief moves in DoTI shuffle

by George Black

ALISTAIR McDonald, head of the information technology division at the Trade and Industry Department, is being shifted to the telecommunications division.

His current job will be filled by former chief executive of the British Technology Group, Brian Willott.

The shuffle is being interpreted as a sign of the increasing importance the government places on telecommunications as the date for the sale of British Telecom approaches. But McDonald's move from the IT division will be met with regret.

He has been widely credited with pushing forward DoTI's information technology programmes over the past two years, and his will be a hard act to follow.

Willott's time at the BTG has not been a happy period for the organisation. He joined its predecessor, the National Enterprise Board, in April 1980, and became BTG chief executive in July 1981.

Last year the government cut its role as a backer of companies after reviewing its record unfavourably. While its defenders argued that it was set the impossible target of a 13% return on ventures that commercial companies shied away from, it turned in several huge losses, notably on the office automation project Nexos.

Tory peers put Telecomms Bill in peril

by George Black

THE government faces a revolt backed by Tory peers as the Telecommunications Bill enters its second reading in the House of Lords next Monday.

Peers of all parties will bombard it with amendments which could embarrass the Cabinet and even force it back to the Commons. Critics are now backing a move to give more teeth to Oftel, the proposed supervisory body. A Tory group led by Lord Orr-Ewing, chairman of Air Call's Cellular Radio consortium, aims to bring in an amendment to strengthen competition.

Lord Orr-Ewing said: "We want to give a fair chance to the small firms who have pioneered these services over the last 25 years. It's very difficult to believe that Oftel's 40 staff can cope with regulating BT's £50,000."

At the same time, the Labour side is pressing for a separate watchdog on consumer interests to be called the Telecommunications Council. Under proposed legislation the Post Office Users' National Council would pass its telecommunications role to Oftel.

Some peers also fear that BT will buy far more supplies from abroad, thus endangering big contractors like GEC and Plessey.

It wants to prevent BT from discriminating against certain services and geographical areas on grounds of unprofitability.

And POEU attention has shifted to the coming struggle in the Lords.

ORR-EWING . . . "Fair chance."

Engineering prospects look good

■ From page 1

the companies use graphics, but only 7% have computerised their use.

Of the vendors represented in the engineering marketplace, IBM dominates the installed base of large systems with 63% of the machines valued at over £500,000. ICL has 24% of the installed base in large systems.

ICL and IBM are almost neck and neck when it comes to the medium sized systems installed base. ICL has 23% of systems costing between £50,000 and £500,000 and IBM 22%. Honeywell, Hewlett-Packard and Digital Equipment follow with 13%, 10% and 9% respectively of the medium-sized system base. That there is scope for other vendors is shown by the 23% shore they hold.

When it comes to small multi-user systems, worth up to £50,000, Digital Equipment takes the lead with 17% and IBM has 12%. Burroughs, ICL and Data General follow with respectively 7%, 7% and 6%. Other vendors account for a very significant 46%, which suggests a lot of room for manufacturers and OEMs specialising in this market place.

Microcomputers are being introduced into engineering at a fast rate, suggests the survey, and are most extensively used for technical and scientific applications, budgeting and forecasting, and graphics and design, as well as text processing.

The most popular single user micro vendor in the £500-£6,000 price range is Commodore Business Machines with 33% of the installed base, followed by Apple (27%), Tandy (7%), ACT (5%) and Hewlett-Packard (5%). The survey finds that there is a "significant shift" away from traditional cash to get Portico started. Last August Holstead resigned as joint managing director. Around that time Smith claimed that he was "knee deep in enquiries for the Miracle", and that he expected to produce 200 machines a month by September.

Details of the company's troubles were not forthcoming from Thom, and neither Smith nor Tatten could be contacted for comment.

The managing director of ITCS, David Lewis-Pryce, recently claimed that Portico used the original designs for his Zita portable microcomputer for the Miracle. That suggestion was vigorously denied at the time by Tatten who said: "Smith and I are not technical people, so we wouldn't have had the know-how to take the designs."

Lewis-Pryce's company Information and Technology Computer Systems (which is separate from ITCS), manufactured the Zita microcomputer but is currently in liquidation. The Zita portable micro is being manufactured by subcontractors for Zita Microsystems, which operates from the same address in Staines as ITCS.

Deals give foot-holds to Logica

by George Black

UK SYSTEMS house Logica has begun the new year with two deals to gain a foot-hold in micro-mainframe links and high security services.

The first involves the purchase of a Californian company, Intelligent Technologies International Corporation (ITIC), of Palo Alto, which already has a micro-mainframe connection called PC-Express. Logica is to pay $1.25 million (about £874,000) for ITIC and will repay $1.9 million (£1.3 million) loans, used to set up the company, by August 1986.

ITIC was established s year ago by Victor Amescua, formerly of Hewlett-Packard, and Dan Greenberson, of Zilog.

The other new move by Logica is to form a closer tie with the US failsafe hardware manufacturers, Tandem. Logica and Tandem have been associated with one another for several years and Logica won the contract to computerise the Hong Kong stock exchange last year on the basis of Tandem hardware.

But how the relationship is to be formalised, with Logica expecting to use Tandem machines for its big contracts with government. Together they will aim at winning jobs with the police, emergency services, financial and military applications, and retailing.

He estimated that the number of people involved in joint projects would run into dozens, concentrating on areas of mutual interest such as high security. The software is likely to make heavy use of Logica's message switching packages, Pastrex and Fastran.

HERMON . . . "More cement."

The mystery of the vanishing firm

by John Riley

PORTICO, the portable microcomputer manufacturer, is in financial difficulties, and left its rented premises on the South Bank three weeks before Christmas without leaving a forwarding address.

Portico was set up at the end of last March by Geoffrey Smith and Mary Tatten, former consultants to ITCS of Staines, and David Holstead, a former ITCS microcomputer dealer. They commissioned and designed a portable microcomputer, called the Miracle, produced the first prototype within a month, and launched it on July 1 last year.

"There are financial difficulties," confirmed Portico's non-executive chairman, Grsham Thom of Shaw and Co, stockbrokers, "but we are hoping to resolve them, and are still in business." He expects a new machine in January.

However, there was no satisfactory explanation from him of Portico's failure to leave a forwarding address. The receptionist at the South Bank offices said there had been many calls for Portico since it had left the premises.

Shaw and Co helped raise the

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Televideo drops three

TERMINAL and micro manufacturer Televideo is to drop its three UK microcomputer distributors Middleton, Encotel and Colt Computers. Thorn-EMI will be made the exclusive UK distributor for the micro products in a deal announced today. All three present distributors hope to become OEMs and retain their dealers.

Encotel marketing manager Keith Bickerton said there had never been any suggestion that Televideo was dissatisfied with Encotel's performance. "We've always met our commitment and always got distributor discount. But Thorn-EMI is a big company and it would be rash to suggest that we are as powerful as them in the market."

But David Sergeant, distribution manager of Midlectron took a different view: "I assume Televideo are not happy with market penetration in the UK. It came as an incredible shock when they wrote and told us before Christmas that Thorn EMI was taking over."

Colt Computers managing director Roger Thorpe said he was not too worried about the change. "We saw this happening last June and have been gearing ourselves taking two new products".

Sinclair micro will challenge Acorn

SINCLAIR is launching a new micro today (Thursday) to challenge Acorn's BBC Model B. Although the firm will not reveal details of the machine until today, reports indicate it will have 128K memory, a full-size keyboard and twin Microdrives. It will be known as QL, and should sell for under £400.

Hitachi first

Hitachi claims to have won the race to design the world's first one Mbit random access memory device. The company say that it will introduce a one Mbit D-RAM at the International Solid State Circuits conference in San Francisco, next month. But it will not be showing samples.

Micro maker hit

HARRISON Industrial Developments, which includes H. H. Microcomputers, has gone out of business. The group's bankers have called in a receiver. Roberts, the receiver said that there had already been approaches made to the company though he would not confirm that Torch was interested.

Berisford stops

BERISFORD Information Technology, formed a year ago out of the DP department of S & W Berisford, one of the world's largest commodity brokers, has stopped trading. In a curt statement, the mother company said that after reviewing BIT's progress it had decided to withdraw from "external markets" to concentrate on the requirements of the Berisford subsidiaries; no word yet about what happens to BIT's clients or suppliers – which include ICL – but there is speculation that BIT staff intend to continue the business on their own.

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BUTCHER . . . "Foolish" predictions warning.

Butcher warns against IT joy

by Dave Madden

TWO senior industry figures provided dramstically different views nf informstion technology's effect on prospects for the UK economy, last week.

John Butcher, Parliamentary Under-secretary of State for Industry, warned against the "foolish" predictions of an age of leisure. Philip Hughes, fnunder and chairmsn of Logica, predicted fundamental changes in attitudes to work and leisure in the wake of adopting high technology.

Butcher was speaking to a local meeting in his Coventry South West cnnstituency, where he recently made disparaging comments about the "lazy" North of England, snd not as a Department of Trade snd Industry spokesman.

He tnld Coventry's Conservative Political Centre that any suggestion that information technology was a panacea for industry, ushering in "an age nf leisure" was "foolish and misguided", distracting us from whst should be our real preoccupation in 1984 – "the need to subordinate all our interests to the needs of wealth creation in the UK".

For from expecting information technology to change traditional working patterns, Butcher said that 1984 "will be a year of the growing use of overtime" which "is the prerequisite for the generation of profits from which overdue capital investment can take place."

It is thst investment which Butcher expects to "make a hole in the unemployment figures", without any need to tamper with work patterns.

He went on to say that in the medium and long term, the application of technology does not mean the "dswning of a new age of leisure. Their application will simply make us more efficient in the generation of surplus wealth which will re-enter the economic system, and create new jobs – the 40 hour week will remain the basis of work patterns throughout the 80s, and the sooner we recognise this the sooner we shall see more, not fewer people in work".

Although Hughes sgrees that the UK economy can be stimulated, and that the information technology industry will be the catalyst, he anticipates that this will bring radical changes.

Hughes was speaking on the television programme *Beyond 1984*, part of the Orwellian-orgy with which the BBC greeted the New Year. He told *Computer Weekly*: "We were projecting about 25 years ahead, and the basic premise was that we will be able to create wealth in the UK but only if we move fast to encourage what I call the knowledge-based industries."

But, he added, that alone will not creste jobs. "Unemployment is not just a temporary phase, and I can't see us getting back to the relative full employment of even six or seven years ago without drastic changes – there is going to be a radically different mix of employment and unemployment."

Report blames staff shortage on training

by George Black

LACK of training is one of the causes of the worsening shortage of computer staff. A report just published by an independent research organisation* cites as an example a complaint from the banking union BIFU, which criticises the lack of investment by employers in staff training and the use of contract staff as a short-term solution to the recruitment problem.

BIFU alleges that contract staff are brought in to fill jobs that permanent staff could do and to do work on new projects, thus denying its members training opportunities.

The report was prepared by Income Data Services, a London organisation researching pay and industrial relations. It looked into 38 bodies, 10 in the public sector, 12 in banking, insurance and finance and 16 in manufacturing and retailing.

While one data processing manager told IDS that current shortages were due to the unwillingness of employers to train, the drug company Glaxo claimed it had had no recruitment difficulties because it recruited and trained internally for all computer posts and rarely found it necessary to look for staff outside the compsny.

But about half of the employers surveyed, including Thomas Cook, Trustee Savings Bank and Brighton Council admitted recruitment difficulties. Many replied that the phenomenon was nationwide.

Staff turnover showed very high rates compared to other industries: 9.8% a year among operators, 15.6% among programmers, snd even 11.5% among managers.

Glaxo said its programmer turnover was 11.5%.

Shortages pushed up wages by 10 to 13% in the year to April 1983.

*Income Data Services Ltd, 140 Great Portland St, London, W1. Tel: 01-580 0521/9. Study 304 December 1983.

Teachers hit at micro policy

by John Kavanagh

GOVERNMENT policy of putting a microcomputer in every school came under fire from all sides of the teaching profession last week.

Teachers pointed to the failure to back up the installation of equipment with suitsble teacher training. One specialist said government policy was naive and another said universities were having to give remedial coaching to undergraduates with A-levels in computer science.

Meanwhile the National Union of Teachers has started a series of 12 courses aimed at making up government and local authority shortfalls in training school teachers in computing.

The scene was set by Jan Stewart, a senior lecturer in primary education and a researcher in the national ITMA project – Investigations on Teaching with Microcomputers as an Aid. She told the Association for Science Education that schools should beware or programs which simulated simple instruments such as thermometers when the actual instruments were readily and cheaply available.

"With a shortage of money they do not have a strong place in the primary school," she said. "At their worst they become games which children just want to win."

Stewart's views were backed by ITMA director Dr John Coupland.

"The lack of computing skills among teachers is absolutely terrifying," he said. "We've all had the naive idea – typified by the government's naive attitude – that all the schools needed was equipment.

"Teachers are at the juvenile stage as far as computing is concerned. They choose programs in the same way a child might choose a paperback because of its cover. What they should be doing is evaluating their attitude to teaching and then choosing the right programs to back it up.

Coupland said the real costs of introducing computers to schools lay not with the equipment but with training teachers.

Richard Ennals, a research fellow in computer science at London University's Imperial College, agreed. He told the North of England Education Conference that the teaching of computer science in schools had to be improved in quality and quantity.

"Some teachers are doing superb programming work in their spare time – but what we should be doing is identifying and developing the kind of thinking needed in the clasaroom," he said.

■ Leader Comment – page 13

Cabinet authors neglect publishing

by George Black

A CABINET Office report *Making a Business of Information* has been criticised for concentrating on the online sector – things like viewdata – at the expense of publishing and broadcasting.

Roger Tomlinson, responding on behalf of Unilever Computer Services (UCSL), welcomes the report's main conclusions, but says the authors "fell into their own trap" by concentrating on the technology-intensive sector of the information business.

"It's quite likely that that will have been seized on by many respondents and used to discredit the entire report, which would be unfortunate," he commented.

He calls on the government to accept the chief recommendation and do for tradeable information in 1984 what it did for information technology in 1982. A government statement on the report is expected within the next few weeks.

The report was published last year by the Information Technology Advisory Panel, whose earlier findings on cable quickly found favour with the government.

UCSL supports the team's call for a single government department to be responsible for all tradeable information and says: "We hope this department will genuinely attempt to make a business of information and not simply be another focus for IT."

The fledgling online information industry, says UCSL, employs less than 1% of the panel's estimated one million personnel involved with selling information.

Lords will debate Alvey

by our parliamentary Correspondent

PARLIAMENT returns Monday, and among the first business in the Lords will be a debate on the recommendations of the Alvey Committee report, *A Programme for Advanced Information Technology*.

The Earl of Bessborough announced before the recess that he will start Alvey debates.

The Lords will also be busy with the Third Reading of the Telecommunications Bill, which passed by the Commons last session.

The Cable and Broadcasting Bill was debated before Christmas, Lady Trumpington for the government saying she hoped that the proposed new cable authority would start work as soon as the Bill was enacted.

The authority would have a chairman and six members, appointed by the Home Secretary, while the Bill was still being debated.

Of significance to the computer industry would be interactive services accessed through the television set, and these would be encouraged by the new authority, said Lady Trumpington.

BRITTAN . . . Go-ahead.

Lord Mishcon, for Labour, did not oppose the Second Reading of the Cable Bill, but said his party would press for extra safeguards during the committee stage, which will begin in the second week of the coming session.

The go-ahead was given in the Commons on the final day of the last session for 11 existing cable operators to extend their present services to provide new programmes, by Home Secretary Leon Brittan.

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Rivals make up to boost exports

by John Kavanagh

NEW export initiatives have been set in motion by the UK information technology industry following a meeting of the major trade associations.

At the same time the export effort has been boosted by a declaration of peace by the Computing Services Association and the government's ExportIT organisation. This follows the resignation of ExportIT chairman Donald Moore, who claimed the CSA was muscling in to try to become the only export co-ordinator.

CSA Alison Newell last month called a meeting of seven trade bodies, including the Business Equipment Trade Association and the Telecommunications Engineering and Manufacturing Association. Other meetings will be held this year.

"There was a lot of goodwill and a great feeling that we could work together a lot more," Newell said.

"I pointed out that software is one of Britain's strengths and should be used in overseas sales opportunities by allying it with products and systems from members of the other IT trade associations.

"Members of different associations already co-operate. The meeting looked at ways the associations themselves could co-operate."

Newell said more companies could pool informstion on faraway countries such as Japan. And associations could get together to send members on overseas missions backed by the British Overseas Trade Board.

Such missions needed 10 companies to qualify for backing; an individual association was often unable to get enough members together but several associations could meet the minimum between them.

Newell said the CSA and the National Computing Centre, both original backers of ExportIT, felt the organisation was valuable to smaller firms.

She was "saddened" by Moore's comments: "All of us are working to win more exports for the UK," she said.

Moore resigned partly because of "bureaucratic meandering" by the government. ExportIT was formed at the end of 1981 with £248,000 from the government to see it through 1982.

ExportIT directors believe a single payment of around £200,000 would be enough to make the organisation self-financing.

Donald Cook, a consultant to ExportIT, was elected chairman at the annual meeting at the end of December. "Now that the CSA has met the other trade associations and reported back to the government I am hopeful that we are fairly near to an arrangement which is acceptable all round," he said.

NEWELL . . . "More companies could pool information."

Apple settles for $2.5 million

by George Black

APPLE has agreed to accept $2.5 million from Franklin Computer of New Jersey for infringement of its copyright following an Appeal Court decision in Apple's favour last September.

The court ruled that the Apple DOS operating system, Applesoft and Autostart-ROM were protected by copyright, even though the programs were on a chip, and that Franklin's Ace 100 machine infringed that right.

Last week the two firms reached an out-of-court agreement on the damages.

Apple has agreed to grant Franklin a breathing space in which to develop its own operating system to allow it to continue selling the Ace. Franklin's director of communications, Susan Gaufs, said the new system was already in its test phase and should be ready by the spring.

The two firms have also agreed to settle any further disputes out of court.

The case was a milestone in US legal history.

McCORMACK . . . Joint promoter of winning game.

$100,000 prize offered for home video game

by Philip Hunter

A PRIZE of $100,000 is on offer for the winner of a new international competition to design an innovative video game for a home computer.

The competition closes on May 15, and prizes will be presented at a television show in the autumn.

The winning game will be marketed by joint promoter Mark McCormack, whose International Management Group is best known for minding the public affairs of celebrities such as Michael Parkinson and tennis champion Martina Navratilova.

The prize money is an advance on royalties, and the winner will take 10% of all sales after the $100,000 has been paid.

"Whoever wins the competition is likely to move into the millionaire class," says Mark Eliot, managing director of Video Games International, sponsor of the competition.

Joint promoters of the competition are McCormack, and the International Register of Idependent Computer Programmers. McCormack will keep full marketing rights for winning games.

There will be five consolation prizes of $15,000 for games that win individual categories, and these games will be marketed as well, with the promise of extra royalties for the winners.

Eliot said he would like to see a game that makes use of film editing facilities such as close-ups and screen sound effects winning the competition.

The winning game should also combine manual dexterity and mental skills, Eliot suggested.

The competition is being promoted in 20 countries, and will be an annual event.

Four-fold floppy fillip

by Philip Hunter

THE 1983 microcomputer boom brought a surge in demand for two-sided 5¼in floppy disc drives. Worldwide sales were up almost fourfold to 5.5 million units, while total sales of flexible disc drives doubled to 11 million in 1983, according to a US report*.

But sales of 8in floppy drives were static in 1983, and are expected to decline steadily over the next three years, as the storage capacity of the 5¼in models continues to increase.

At the same time a dramatic increase in sales of the microfloppy 3½in drives, such as the Sony models adopted in 1983 for new micros by Hewlett-Packard and Applied Computer Techniques is expected. About 300,000 microfloppy drives were sold in 1983, but the number is expected to reach three million in 1986, according to the report.

The UK market is showing trends similar to the US, according to Mike Perry, director of the UK Peripheral Suppliers Association, with the smaller drives rapidly taking over from larger ones.

*1983 Disk/Trend, 1224 Arbor Court, Mountain View, CA 94040 US.

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Motorola steams into the office

LOTHIAN . . . "Important to cover all aspects of the market."

by Nuala Moran

MOTOROLA's plans to become a force in office automation are finally gathering steam.

A distribution deal for Motorola Series 2000 micros, worth £1,500,000, was signed last week with UKOM, a subsidiary of the Europa Systems group.

UKOM is the first UK distributor to be appointed for the Series 2000, a range of Unix-based small business machines which will support up to eight workstations. Motorola Information Systems Ltd (MISL) set up last October to bring Motorola's data communications and data processing and office automation expertise together, will sell direct to some national accounts.

It is also talking to distributors in other areas, but UKOM will be the major UK distributor for Unix-based applications.

Both companies take the view that Unix will become the industry standard operating system.

UKOM's chief executive Alex Lothian said he expected sales to reach around £6 million in 1984, with UKOM becoming one of the major forces in the UK micro market.

Series 2000 will be supported by a range of applications software. Software distributorships have already been agreed with major houses, including Microsoft, Logica and Precision Software.

UKOM will also offer customer training and education through Multi Media Editions, another Europa subsidiary, set up specifically to do Unix training. Motorola will provide hardware maintenance through its national network of support facilities.

No dealerships have been awarded yet but Lothian said there are plenty of candidates. "I estimate we will recruit around 25, but the important thing is to cover all aspects of the market. If we can do that with 10 dealers that's OK, if it takes 50 that's OK too."

There are three models in the Series 2000 family. The 220 and 240 models have Motorola 6809E processors with up to 768 Kbytes of memory and run ISOS, Motorola's Unix-like operating system. The 260 model has a Motorola 68000 chip with up to one Mbyte of memory. According to Rodney Turvey, managing director of MISL the series has: "A strong repertoire of remote communications capabilities."

MISL was formed from three Motorola-owned companies, Codex, Universal Data Systems and Four Phase. The UKOM deal is the first distributorship since MISL was launched but Turvey promised that 1984 would be: "An exciting year for Motorola, with pending announcements of new products and an anticipated formidable growth in our UK data processing and data comms."

IBM takes Comshare package

by George Black

IBM HAS taken on a software package written in the UK by Comshare to develop and distribute in the US.

It is a decision support system called Wizard — known on the other side of the Atlantic as System W. The two firms have begun a two-year collaboration agreement which is expected to lead to a number of enhancements to Wizard and its micro version, Micro-W. The latter allows IBM-PC users to download data from a mainframe and upload it again after processing.

The deal is the first of its kind struck by the industry leader. Last September IBM for the first time went outside the US to get independently-written software to sell under its own label. The packages were Micro Focus's Personal Cobol, Caxton's Cardbox and TKI, and Compsoft's Delta database.

But in these cases the agreement was for a straight purchase and did not involve a long-term joint research and development effort. The Comshare agreement so far only affects the US, and neither party was prepared to speculate whether IBM's Wizard enhancements will be sold by it over here.

Comshare will provide the consultative expertise on the software, while IBM makes the running on the sales side.

1984 portends the shape of comms to come

JEFFERSON . . . No price rises.

by Donald Kennett

1984 will be the year when the shape of communications in the next century will be revealed, according to British Telecom chairman Sir George Jefferson.

But UK telecommunications users were unimpressed with his predictions.

In a New Year message to customers and staff, Jefferson said: "I believe that 1984 will be remembered as the year when the communications system of the twenty-first century began to take shape."

Belittling his personal contribution since joining BT as chairman in 1981, he added: "More than a decade of research, planning and investment will begin to be translated into service for the customer."

Jefferson said that BT would make no price increases until November at the earliest and that its aim was to hold the general level of increases below inflation. He outlined five areas in which twenty-first century communications would appear this year, giving the UK several world firsts.

London would become the world's first capital to have a network of "super highways" of optical fibre, which would make visual communications an everyday possibility, he said. The UK also would be the first country to put an undersea optical fibre link into commercial service when the link between Portsmouth and the Isle of Wight opened this year.

The UK is to be the first country to enjoy a pilot trial of the ISDN (Integrated Services Digital Network) concept in which a single transmission and switching network carries all types of telecommunications traffic from colour pictures for videoconferences to telex messages and speech.

The trial will be based on a System X local exchange in London — one of 24 local and trunk System X exchanges due to come into service this year.

A compact videoconferencing terminal suitable for operation on user premises and based on signal compression techniques developed by BT with other European concerns is to go into service this year under the name VideoStream, and a transatlantic videoconferencing service is planned.

Transatlantic satellite links are to open to Canada this month based on small dish antennae that can be installed by companies or shared between them. Links to the US are to follow.

And a fast high-quality text transmission service based on international teletex standards is to start in the UK this year, operating over the public packet switched data network and the telephone and telex networks.

Users were relatively unimpressed with Jefferson's message. Telecommunications Users Association director Mark Elwes said: "There are no references to improvements in any of the basic services, some of which require urgent action. There has been some improvement, but promises are not being met particularly in major conurbations where most of the problems are. Fault repairs and lead-times for the provision of services and facilities are the things that our members complain about most often."

He added: "We might have expected prices to come down. Not steeply — they are more likely to come down a lot after we have got Oftel, although perhaps that is a pious hope."

Telecommunications Managers Association chairman Stephen Finch said that Jefferson's message seemed pretty anodyne. "What is the advantage of having twenty-first century services at twentieth century prices?" he said. "I would rather benefit from reduced prices."

But the British "firsts" would mean that the UK stood a better chance of continuing a communications hub for international organisations, Finch said.

Computing Services Association general secretary Doug Eyeions said: "There is nothing in the message about privatisation or about value-added network services (VANS). And with satellites and fibre-optic cables coming into service, you would expect prices to come roaring down.

"In the rest of the computer industry prices come down at something like 40% every year — magnetic storage, processing power, everything — but it hasn't happened in communications. The bandwidth has arrived but the prices haven't."

This month's Computer Choice shows you how to get even more fun out of your Christmas computer.

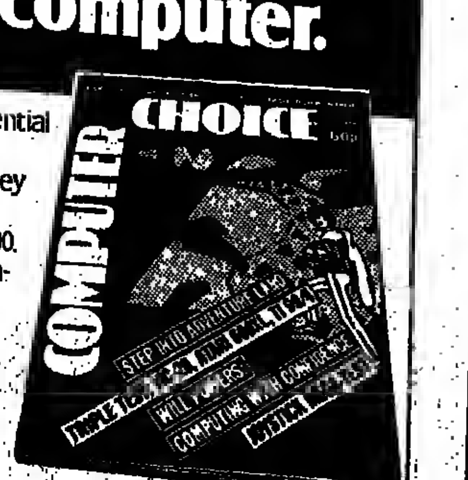
If you had a computer for Christmas, this month's Computer Choice is essential reading.

We cover adventure games software and tell you what's worth the money and what isn't.

Plus a buyers' guide to joysticks and interfaces for computers under £200. And we talk to Will Powers of 'Kissing with Confidence' fame about how computers help her with rock videos.

This month's triple test looks at the Atari 600XL, Texas Instruments 99/4A and the Vic 20.

Plus lots more to make buying a home computer easy and owning one fun. All in February's Computer Choice, out now.



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Shugart wins $10m order

by Dave Madden

SHUGART Corporation has won a $10 million order for its 3.5inch microfloppy disc drives from portable computer maker Gavilan.

The contract is Shugart's largest yet for the drive, and is further evidence that 3.5 inch drive is emerging as the de-facto standard for sub-5 inch floppies.

Gavilan had been one of the few US enthusiasts of Hitachi's 3 inch technology. Gavilan said that it has made the decision to swap vendors because Hitachi was unable to meet its delivery schedules.

Gavilan cites the move from 3 inch to 3.5 inch drives as one reason for its persistent failure to ship its "mobile computer". Volume production is not expected until the end of the first quarter this year.

Despite the delay, Gavilan founder and president Manny Fernandez has raised £24 million in venture capital funding.

SALES BR[IEFS]

Olivetti building society de[al]

BRITISH Olivetti has take[n a] million order from the UK's biggest building society National & Provincial, for counter and back-office system. The equipment, based on Olivetti's Line 1 processor, will be installed over the next [...] and will eventually serve 1,250 counter positions at the society's 366 branches. Olivetti now supplied four of the [...] building societies, the others the Abbey National, the [...] and the Alliance.

Logica order

LOGICA has signed a multi-[mil]lion pound contract with the government for supply of a [mes]sage handling system based on Tandem computers. The system will be part of a classified [...] tion covered by the Official Secrets Act, and it will make use of [...] a communications software package developed by Logica.

BBC mini

BBC Enterprises, the commercial arm of the BBC, has bought [an] 11700 super-mini from Harris [in a] £90,000 contract. The system [will] help the BBC keep track of [televi]sion programmes sold abroad [and] provide online accounting information.

PA contract

TWO companies of the UK [...] consulting group are to share [a] £250,000 contract with the Belgian government, to study the future needs of Belgian telecommunications. The study will include [an] assessment of the role new technologies such as fibre-optic [...] should play in Belgium's telecomms network.

Cray success

CRAY RESEARCH last week announced its first order from the Middle East. Arabian American Oil (Aramco) has ordered a Cray-1 M for use in petroleum reservoir simulation at its engineering centre in Dhahran in Saudi Arabia, in a contract worth around $10 million.

Navy's Prime

THE Royal Navy Staff College at Greenwich has ordered a Prime 2250 computer to help teach basic computing skills to officers. The machine will be used at three levels of training to officers up to the rank of commander for demonstrating use of work processing and graphics and solving financial problems.

Hoskyns sale

HOSKYNS has sold the IBM version of its Financial Control System (FCS) to the Howmet Turbine Components Group for applications including online update and enquiry. FCS is the first of a new generation of modular application systems from Hoskyns.

Warwick link

THE University of Warwick has completed installation of a local area network supplied by Interlekt Electronics of Reading to link 10 sites. The contract value is over £80,000. The network links the central Computer Centre with nodes in various science and arts building.

£1.25m contracts

BRADFORD-BASED Yorkshire Building Society has signed contracts worth £1.25 million with Honeywell and SPL International for a new computer system. Honeywell will supply the central system, two coupled DPS 7/55s and two Datanet 8 communications processors plus a DPS 6/54 mini for data entry, while SPL will develop software for counter-top terminal applications based on an existing building society system running on Honeywell kit.

EEC eases rules on research

by Philip Hunter

THE EEC is to make it easier for large companies to team up for research and development by exempting such agreements from competition rules.

At present firms have to notify the EEC if they want to combine on R&D, which can result in long, tedious discussions.

ICL, Siemens and Bull had to go to the EEC for approval before setting up their joint research centre in Munich, which is just beginning research in artificial intelligence.

In future agreement would be automatic. The EEC member countries have already agreed in principle the new proposal, which would automatically exempt R&D agreements from Article 85 of the Treaty of Rome, which forbids joint projects that distort or prevent competition.

Even production agreements could be exempted, so long as they are based on the joint research. But there is a qualification that only one of three leading companies in the field can be involved, and the combined turnover of the companies must not exceed 500 million Ecus (£285 million).

Failing this the plans would have to be scrutinised individually, as before.

The new measure is being pushed hard by Frans Andriessen, commissioner in charge of competition, who believes strongly in a free market unfettered by artificial constraints. The main objections to the proposal have come from the French, but these seem to have been overcome.

Similar moves are afoot in the US, with the Reagan administration now pushing the National Productivity and Innovation Bill before Congress. But this does not go as far as the proposed EEC measure because there is no automatic exemption from competition rules.

IBM set to dominate local area networks

by Donald Kennett

IBM is more likely to dominate the market for local area networks in Europe than in the US, according to US market researchers International Resource Development (IRP).

Although IBM is a late entrant to the LANs market, IRD's report* *European Local Area Network Markets* suggests that it has several factors in its favour here. It knows the European telecommunications market from its experience of marketing PABXs since 1969; there is no European equivalent to AT&T to challenge it; and European users are more wary of LAN technology than US ones and therefore particularly likely to go for a big name supplier like IBM.

IBM showed its token passing ring LAN in public for the first time in October, having submitted a standards specification to the US Institute of Electrical and Electronic Engineers (IEEE) nearly two years previously. It says that the system is a research project and contribution to standards efforts only at this stage. It has made no announcement that it will launch a LAN product at all.

But IRD says that IBM LAN products — being developed under the code name Alligator — will be on the market by the middle of this year.

By buying into Intel and Rolm, the US semiconductor and PABX companies, IBM has acquired a stake in advanced technologies that are relevant to LANs, IRD says, whereas its own PABX is obsolete.

And it is master at being second into the market, the company adds.

This is an expertise it may well need to draw on, since AT&T Technologies (formerly Western Electric) launched its LAN product, called Datakit, last month.

*European Local Area Network Markets, 180pp, $1,650, from IRD, 30 High Street, Norwalk, CT 06851, US. Telephone: 0101 (203) 866 6914.

French give thumbs down to videotex

by Jack Gee

THE French government is failing to persuade the man in the street to accept videotex. Its problems are highlighted by the decision of the city of Grenoble to abandon a local information service provided by terminals at the Town Hall and in other public places.

The conservative municipal elected last year has scrapped "Claire," a venture sponsored by the socialist administration in Paris to provide Grenoble with a database containing 12,000 "pages" of facts and figures about social and other facilities for citizens.

Gaullist Mayor Alain Carignon had to all intents and purposes shelved Claire since he was voted into office in March 1983.

But Claire could bounce back even more strongly in 1985 when the Ministry of Telecommunications installs 30,000 Minitel terminals, the basic units used for access to France's Teletel videotex networks, in Grenoble and neighbouring centres.

The Minitels offer the area, which lies at the heart of a popular skiing and mountain resort area in the Dauphine Alps, access to France's electronic telephone directory to which phone subscribers in parts of Paris are being booked up.

Claire went online in February 1982. But the system lacked sufficient user friendliness to be accessed by the ordinary citizen seeking information about public day nurseries, baby sitters, hospital facilities and leisure.

Hostesses had to remain on duty to put the Grenoblois' questions to the database which also disappointed users seeking information about cinema and theatre programmes. Claire's database was confined to information provided by non-commercial organisations.

The government sponsors were planning to introduce this type of information and also classified advertisements into the range of services offered by Claire.

According to Mayor Carignon lack of genuine public interest gave Claire the kiss of death.

Microdata claims Natural is first

CAUSLEY . . . "Entry to fifth generation technology."

by Nuala Moran

MICRODATA Information Systems has released what it claims is the first commercial fifth generation software, Natural Language. "This heralds Microdata's entry into fifth generation technology," said Jerry Causley, Microdata's managing director.

The company also expanded at both ends of its range with the announcement this week of a desktop workstation, the M1000 at the bottom, and a doubling in the performance of its top-end system, the Sequioa.

Causley said that with these announcements Microdata should no longer be regarded as a minicomputer company. "We are becoming like a mainframe supplier but without the problems they suffer in compatibility terms."

Natural Language has been superimposed on to Microdata's existing English inquiry facility and coupled with the Applications Language Liberator (ALL) to develop the Microdata Relational Environment (MRE), a new architecture. Five versions of MRE are available, the most expensive costing £5,000.

Using Natural Language, a user without any computing background can talk to the system, which will respond using English phrases. The software allows the computer to draw inferences appropriate to particular users which it then "learns".

This "learnt" information improves user performance, allowing them to target correct answers faster and more efficiently.

As users become more conversant with the system they will be able to use a prompter, which tells the user what can be done by listing commands the machine uses.

Microdata's workstation offering, the M1000, can be used standalone for local applications or can be linked with shared peripherals and communications to a host system. The operating system is MicroReality a compatible subset of Reality, Microdata's mini operating system.

All applications for the M1000 run on the Microdata Reality and Sequoia systems. "This gives Microdata a database range from £6,000 to £1 million which is fully compatible, avoiding mid-range conversion," said Causley.

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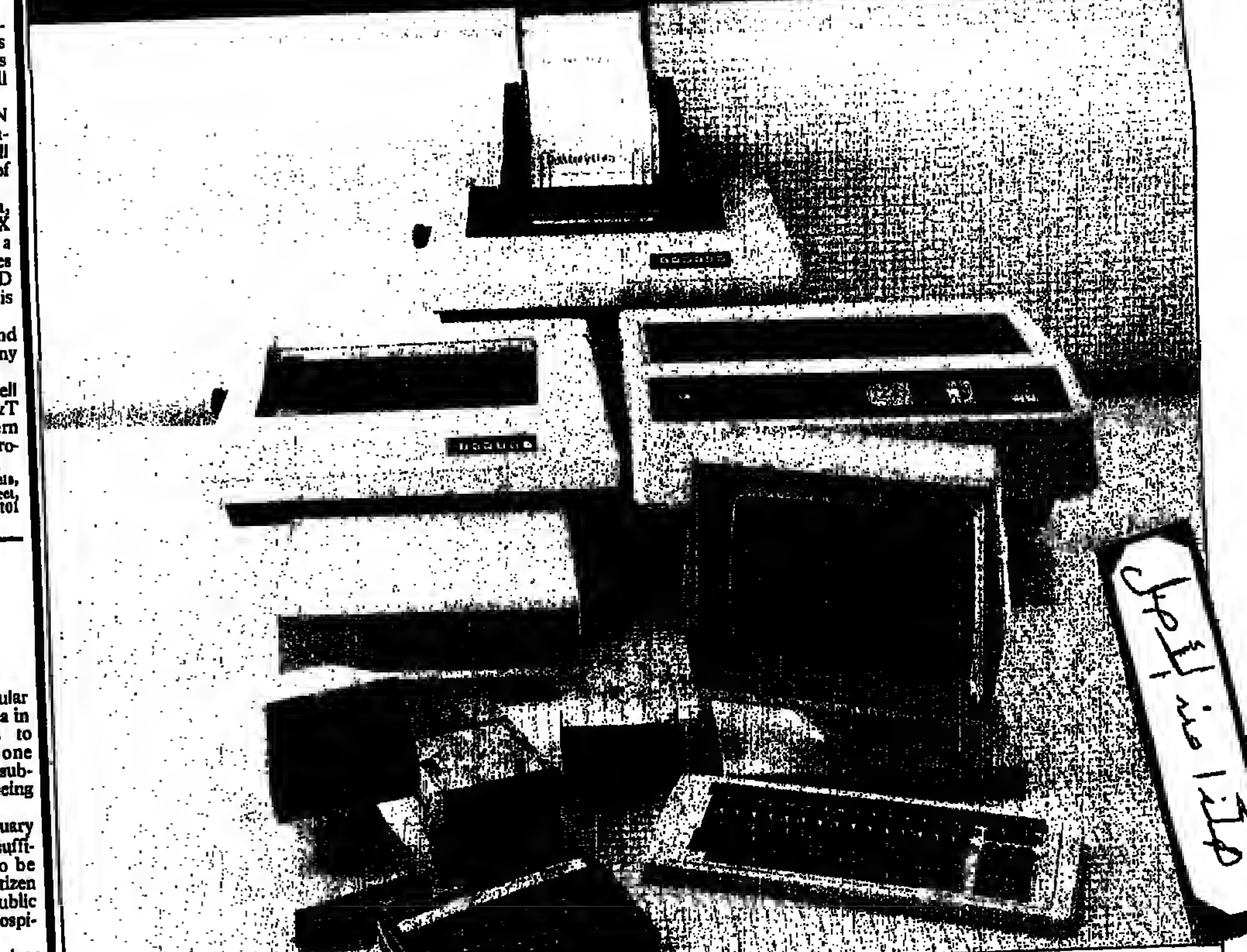

Newbury Data has lots of surprises at Which Computer Show. A new 5¼ Winchester Disc Drive with 140 Megabyte data storage. New Matrix printers with near letter quality typeface and one with speeds of 160-800 lpm.

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Students are off to US for program competition

by George Black

FOUR UK computing science students from Thames Polytechnic are off to the US next month to try to win an international programming competition. It is the first time a UK team has taken part in the contest, run by the Association of Computing Machinery (ACM), in its 13-year history.

The foursome, led by the president of the UK student chapter of the ACM, Tim McNally, has been practising here on a Hewlett-Packard 3000.

A total of 24 teams from all over the world will take part. They have to solve a series of six problems and are given a choice of three languages, PL1, Pascal or Fortran, to present their solutions in. The winning team is expected to take about six hours to find correct answers to all the problems.

Lecturers at Thames Polytechnic have been devising model problems for the students to practise with. Prizes will be HP machines worth at least £1,000.

The team has to raise £8,000 to take part in the competition, including air fares and accommodation in Philadelphia. Promises of sponsorship have been made by government, MPs, private companies and other organisations, headed by contributions from the Department of Trade and Industry and Sir Clive Sinclair.

BATER . . . "We're going to win."

At the time of *Computer Weekly's* going to press, they still wanted some £5,000 to support their bid to bring the title of champions back.

The other team members are John Cavanagh, Duncan Macmillan and Robin Bater – aged from 20 to 22. Asked about the team's chances, Bater replied: We're going to win."

He said they had had a lot of experience and had been practising hard. The Americans saw them as no-hopers, but it would turn out to be a David and Goliath struggle, he predicted.

CRA urges societies to co-operate

by Keith Holder

GREATER co-operation between microcomputer trade associations has been urged by the Computer Retailers Association (CRA).

Overall aims of the Association will remain the same, though greater emphasis will be placed on working towards a "confederation of computer associations" to act as an umbrella for similar organisations such as the Computer Services Association, National Computing Centre and the British Microcomputer Manufacturing Group (BMMG).

The Association will also try to encourage use of its code of practice over wider areas of home and professional use.

It plans to investigate how much "common ground" exists between associations, with the aim of co-ordinating individual action. Co-operation could lead to more meaningful industry statistics, which had been criticised in the past by manufacturers, said a spokesman.

The CRA plans to broaden membership, including retailers, dealers, distributors and OEMs.

There will be a new fee structure to make it easier for small companies to join.

Representation at government level and establishing international links with similar organisations designed to increase policy decisions and promote specific issues more effectively, have also been given approval.

David Broad, chairman of the BMMG, said that he welcomed this move and would support co-operative efforts "with enthusiasm".

He warned, however, that for any collaborative effort to be effective, the issues to be covered would need to be of sufficient interest to all parties involved.

Dates are set for trade conference

THE Computer Trade Confer – where the trade talks to trade – is taking place at Wembley Conference Centre March 13 and 14. Sponsored *Computer Weekly* and *Micro* news, the Computer Trade Co ence is aimed at the serious u of computer products. Acknowledged specialists from lea companies will present their c to the conference on how to tackle third party sales. The ference, which runs alongside Computer Trade Show, is its second year.

Philips deal

PHILIPS has signed an agreem with Enidata, the informat systems subsidiary of the Ital state energy group, ENI, for p production and sale of vehic software. Enidata will have ex sive marketing rights for Italy the companies intend to ex to other markets. The agreem complements an existing hardw partnership.

Apply by modem

TELECOMMUNICATIO maintenance managers and tech cians have been invited by a co pany with Middle East connec practise what they preach r submitting their job applicati via a 300 bit-per-second modem by telex. The unidentified co pany advertised in the Daily T *press* last week through the ag Martin of Pudsey in Yo Yorkshire.

Dealer network

A MICROCOMPUTER spec house in Yeovil, Somerset, is n nationwide with its estate ag and property management pa ages by setting up a dealer n work. Blue Chip Microsystems appointed MMG Consultants coordinate the network and m and support dealers. Blue Chip packages run on Sirius, Olive and Torch computers. They a already used by 53 firms in over offices.

Burroughs pays

BURROUGHS and UK servic firm CMG have paid "substanti damages and costs to public Harrup over the alleged nonperformance of a business syste The out-of-court settlement is described as "satisfactory" by b sides. Harrap was claiming near £420,000 in damages. The syste installed in 1976, was based o B700 minicomputer and Burroughs' Business Manageme System software.

UK subsidiary

ATHANA Inc of Los Angeles h set up a UK subsidiary in South London. The company manufactures recording 5¼in and eight-inch diskettes and Winchester discs. Athana is in the process establishing a network of distributors in the UK and on the Continent, which it will support from its new office.

Plessey offices

PLESSEY Microsystems has set up offices in France and West Germany. They will market the company's commercial computer systems – the System 19 range of workstations and the Unix-based System 68 micros, its Multibus and Versabus-compatible memory and processor boards, and several environment products.

Micro contract

PROGRAMMES Limited has signed a deal with SMB Computer Services of Nottingham to sell SMB software on all the micros it distributes through its subsidiary Programmes Technology. Programmes Technology was set up two years ago, operating mainly through telephone sales.

TIMPANY . . . Collaboration is "an open-ended agreement".

Tories plump for Tycom micros

by George Black

THE Conservative Party is to take around 200 Tycom micros over the next 18 months to bring its constituency organisation into the electronic age.

The Tories' central office is to recommend the British-made Microframe machines to its branches, with a choice of software packages, costing between £4,000 and £5,000. The aim is to introduce computerised mail-shotting of the electorate on the pattern already used in the US, as well as automatic membership records and subscription accounting.

About 20 Conservative local associations already have machines of various types, but now party bosses want to standardise on one make.

The idea comes from deputy chairman of the party, Michael Spicer, MP for Worcestershire South, who was the first to get a Tycom micro this week.

Allen Timpany, Tycom managing director, described the collaboration as "an open-ended agreement". He said the company would be looking at ways of connecting the micros to the ICL ME29 mainframe purchased by the party before the last general election.

The Microframe suports both BT Gold and ICL protocols.

Specialised application software for the Torics has been written by Resource Management of Bristol and tried out in the Bath constituency.

Timpany hopes the new link with the Tories could prove a useful handle on the export market through its members at the European Parliament. Tycom managers are visiting Brussels shortly to try to boost sales abroad.

Meanwhile the Labour Party says it is leaving it up to individual local parties and MPs to choose their own hardware, though it has forged an alliance with Acorn, which is supplying suitable programs for the BBC Micro.

Labour's computer expert, Harold Frayman, said the micros were used mostly for word processing. Few local parties would be able to spend £4,000 on a machine, he said, while members would do envelope-addressing.

"We don't work that way because we are a devolved party," commented Frayman.

Labour is to ditch its ICL 2900 and use a Hewlett-Packard 3000, backed up by a Fortune 16/32 high-powered micro.

Commodore unveils a new computer for home market

by Philip Hunter

COMMODORE last Saturday unveiled a new home computer with a range of built-in software and a Unix look-alike operating system at the US Consumer Electronics Show, Las Vegas.

"It is aimed at the fastest growing sector of the home market, people using a computer for computer's sake," said David Harris, company vice-president. "It will be much more of a computer than a games machine."

The machine, code-named Ted and to be sold as the Triple Four, uses a new 6500 series processor developed by Commodore.

Volume shipments begin in the US in April, but the machine is unlikely to be available in the UK until 1985, given Commodore's previous record on exports. The portable version of the Commodore 64 has only just become available in the UK, almost two years after its launch at the 1982 Hannover Fair, for example.

Prices for the Triple Four have yet to be announced, but a figure of $500 has been widely circulated among US dealers. This is well below the $669 for the PCjr to be sold this year by IBM.

But this price brings the risk that the Triple Four will harm sales of the Commodore 64. Partly to offset this risk the new product has been designed not to run 64 software.

This move has already been criticised by US software houses and dealers, who claim it will force them to double their stock of software or choose between the two machines.

Harris said that there was a wide range of serious applications software wired into the new 6500 processor used by Triple Four, including spreadsheet and graph-making packages, as well as extended Basic.

Commodore is also expected to announce soon a micro based on a new Z8000 processor, following the link up with Zilog last year. This will be the first Commodore machine not to be based on a processor developed by the company's MOS Technology 6500 series chips.

BBC will broadcast program by radio

by John Kavanagh

A HIGH-PITCHED screech will be broadcast by BBC Radio Four at 12.23am this Sunday, just after the shipping forecast. It will be the BBC's first radio transmission of program code.

The programs are being broadcast as part of a new 10-week series in microcomputers. Called The Chip Shop, the series will be presented by film buff Barry Norman. It is aimed at home and business computer users and will be a mixture of news and feature material.

Users hoping to record and use the program code will need a converter package called Basicode, supplied on cassette by the BBC at £3.95. This converts the transmitted code so it can run on different machines.

Basicode was developed by the Netherlands broadcasting authority and is also used in West Germany, Belgium, Canada and the US. Under its agreement with the Netherlands authority, the BBC is not allowed to sell Basicode as a commercial product for general use.

The Chip Shop will be on at 5pm on Saturdays, with a repeat at 11pm on Tuesdays. The programs will be transmitted every Sunday, Tuesday, Wednesday and Saturday at 12.23am.

Further details can be obtained by sending a big, self-addressed envelope to Factsheet, The Chip Shop, BBC, London W12 8QT.

Service will offer small firms advice on micros

by Dave Madden

ARTHUR Andersen, one of the big accounting companies, has set up Microguide, a micro advisory service for small businesses.

The company will offer Microguide consultancy to both existing Arthur Andersen clients, and to new, independent customers.

The service will consist of hardware and software recommendations, and Andersen will manage the installation of systems or supervise third party suppliers, run systems tests, develop control procedures and give user training.

There is no standard charge for Microguide advice, and customers will be billed on consultancy time.

The company said that this should be contained by using checklists of commonly requested features to define user requirements.

Although Arthur Andersen has a considerable management consultancy division, which does systems consultancy in larger organisations, Microguide will be managed by a dedicated unit working through the company's audit divisions in all its UK offices.

According to Clive Leyland, who heads Microguide, the service has met with an enthusiastic reception.

Arthur Andersen is not the only accounting firm to offer microcomputer consultancy to its smaller audit clients. The Computer audit service department of Deloitte, Haskins, Sells, claims to have been first into the field.

Young blood scheme has mixed response

by John Kavanagh

A £13 million government scheme to attract new, young blood into university research and teaching jobs in information technology has had a mixed response. In the last year 57 of the target 70 posts were filled. All 2,000 student places created were filled.

Government figures suggest competition from industry has been the biggest problem. Around 80% of the posts were filled by people from universities and another 10% by research institution staff. The number of applicants for each post was 11, far lower than for jobs in other subjects.

The Department of Education and Science suggested that even when people from industry applied and were offered jobs, they were often then made better offers by their employers.

The need to attract young blood arose because of university expansion in the early '70s. Young people taken on then are now middle-aged. Studies show that most major innovative research is done before a person is 35.

Modcomp finally brings out a 32-bit

by Dave Madden

MODULAR Computer Systems (Modcomp), the struggling minimaker from Fort Lauderdale, Florida, has finally produced a 32-bit computer.

The new machine is called the Classic 32/85, and will run both 32 and 16-bit applications.

The company has also announced Max 32, a superset of its 16-bit Max IV operating system.

The machine is supposed to offer twice the performance of Modcomp's current top-end, 16-bit processor, the Classic 11/75. It comes with up to 64 Mbytes of physical memory and one Gbyte of virtual memory.

Although it can be configured with up to six central processors, a single configuration gives internal throughput of around two mips. Four CPUs give almost eight mips.

In the US, first shipments are due in the second quarter, and production quantities in the third quarter of 1984. A spokesman for the company in the UK said that it would be available here in the autumn.

In the UK, a basic configuration with just one CPU and two Mbytes of memory will cost around £115,000. Additional memory comes at £9,600 per two Mbyte increment, and a dual CPU version, with six Mbytes, will be around £230,000.

Modcomp said that the machine should be seen as an extension of its existing Classic range, and would be aimed at Modcomp's traditional marketplace – factory automation and scientific applications.

BT engineers remove plastic wedges.

Improving the service can cut you dead

by Donald Kennett

THE next time your terminal drops a dialled connection for no apparent reason or you get cut off in the middle of a telephone conversation, you should be able to think more positively about the experience as a result of seeing the above picture.

You will realise that your inconvenience could be the mark of yet another step taken towards a more reliable, higher quality service based on electronic rather than electro-mechanical technology.

The picture shows British Telecom engineers (wearing their Telecom ties) pulling 10,000 plastic wedges out of the equipment racks in Deal telephone exchange to transfer subscribers from the obsolete Strowger system to the more recent TXE4 electronic system.

The wedge-pulling process takes a few seconds, during which any calls in progress are lost. But BT points out that the ceremony is usually performed early in the morning, when few calls are being made.

Hospitals and emergency services are covered by special arrangements that protect their calls from disruption. But lesser subscribers must endure the effects of this pragmatic marriage of high-tech and low-tech.

Study outlines comms needs

by Donald Kennett

PLANS to integrate voice and data communications are a high priority among sophisticated US users, according to the US market research company, Strategic Inc.

In the two volumes of Strategic's eight-part multi-client study* Local Communications Systems which deal with the roles of PABXs and LANs (local area networks), the company surveys 50 user sites and finds that planners at nearly all of them want to integrate voice and data to prepare for growth in communications traffic.

Different techniques are being tried to achieve this, with PABXs and LANs linked by gateway devices being used on more than half the sites.

* Local Communications Systems. Published in Europe by IPI, Nordre Ringvej 201, 2600 Glostrup, Denmark.

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Systems programmers lose MVS control

by Philip Hunter

IT would have been unthinkable until recently to run an IBM MVS installation without systems programmers.

But Hitachi Electronic Components has just installed a complete MVS system with an IBM 4341 mainframe at its Harlow offices, with no support from permanent systems programmers or contractors.

All systems software maintenance is done in two days a month by Synapse, the company that installed the system.

Until Synapse started up in 1980, IBM systems software was usually maintained either by permanent on-site programmers, or by contractors called in for a specific job such as getting a new operating system up and running. Occasionally IBM itself would do some maintenance.

But Synapse, and its smaller rival Independent Software Support (ISS), are rapidly sweeping the third-party maintenance market with almost 200 installations in the UK.

Synapse is by far the larger with 150 customers throughout the UK. ISS has 30 customers in the Midlands and south of England, but has similar numbers of customers both in Europe and the US.

ISS does not yet operate in the north and Scotland, where installations are fewer and farther between. Synapse will support any UK installation, even if it is in the Outer Hebrides, but charges travelling expenses if its nearest consultant is more than about an hour away.

Clients pay an annual retainer of £2,000 for the Synapse service, and the same amount for the de luxe version of the ISS service. ISS also offers a cheaper service at £900, but in this case ups its hourly charge for labour to £35. This cheaper service is therefore best suited to smaller installations with some programming support of their own and which are unlikely to call out ISS consultants too often.

ISS charges users of its de luxe service £23 an hour with a guaranteed response time of four hours, 24 hours a day. This service includes a free half day of consultancy once a month. Synapse charges all its clients £19 an hour for normal consultancy, but the service can work out more expensive because the rate is £30 an hour for emergency work.

Most ISS clients are VM and VSE users, and unlike Synapse, the company has not yet found custom from the users of larger MVS installations. "It is easy with our type of company to undertake support of the complete site for VM and VSE users," said ISS sales and marketing manager Peter Steere. "MVS sites like the idea of emergency support, but providing good service is more difficult than it sounds."

Synapse, however, has several MVS clients, although managing director Bill Williams admits it has been hard to persuade MVS sites that the service can cut down on systems programmers.

"But in the VSE area we have definitely sold our concept," says Williams.

Williams says Synapse does not negotiate prices with customers because in his own words: "I believe that in business it is much more ethical always to be able to allow your customers to get together and talk without fear."

IBM will provide the kind of maintenance service offered by Synapse and ISS, but charges are higher.

According to Williams IBM seems quite content to leave the bulk of the work to Synapse and ISS, and its sales people are not averse to telling customers of their existence.

And he says it is only with installation of systems software that Synapse comes into direct competition with IBM.

In fact, it was IBM's announcement in 1979 of the lower cost 4300 mainframe range that provided the niche for Synapse and ISS to climb into. IBM said that for the first time systems programmers would not be essential to run systems software on the 4300.

The idea was that IBM would provide all the systems support needed from its centre in Birmingham, where there was a database of standard system errors.

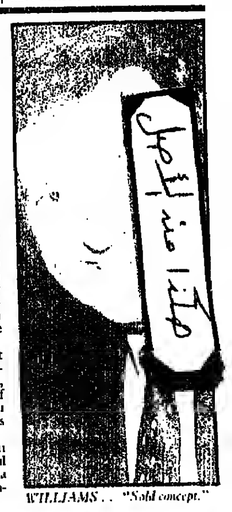
"We saw that this would create a lot of problems," said Williams. And so it did. The more successful the 4300 became, the bigger the vaeuum created in systems programming.

IBM's own support was patchy and confined to the standard working day, so ISS and Synapse were fast able to capitalise with their round-the-clock service.

Williams does not suggest that Synapse's service removes the need for systems programmers altogether, but says it allows sites to limit the number. Hitachi's is a new MVS installation with plenty of standard software, but no backlog of systems to maintain, so is an ideal candidate for the Synapse service.

But as the installation grows it will probably need some permanent programmers to support it, and Williams says that as part of the service Synapse will help in recruiting the right systems people.

This will usually be charged on the same basis as the normal support, but may cost more if a specific person is needed for interviewing.



WILLIAMS . . . "Solid concept."

NEWS ANALYSIS

Members decide on union merger

Nuala Moran looks back at the steps taken by one telecomms group trying to join another

A DECISION is expected tomorrow on whether the 6,500 strong telecomms group of the Society of Civil and Public Servants (SCPS) will transfer to the Society of Telecomms Engineers (STE).

Although this would bring the British Telecom unions nearer the long-held ideal of one union for all BT employees, it is not a happy step as far as the SCPS telecomms group chairman Mike Wohl is concerned. "This move has been forced on us by plans to privatise BT and by the politics of the BT trade unions. These factors are not related, but they have conspired to make our position untenable," he said.

Members of the SCPS telecomms group include 1,200-1,300 data processing staff, and finance, general administration, training and public relations staff.

Gearing up BT for privatisation has meant various changes in structure. One of these was the setting up of the Management and Professional Structure (M&PS), which covers all STE and SCPS telecomms group members, plus a handful of Civil and Public Services Association (CPSA).

The idea behind M&PS was to make it possible to have mixed function groups that can be task-oriented, with a manager who has responsibility for seeing a project through. This replaced functional hierarchies such as the engineering policy group and the accommodation policy group.

The structure gives the areas more autonomy, with the proviso that they show profit, and removes the possibility of demarcation disputes. It also means changes in pay scales, gradings, appraisals, recruitment and grievance procedures.

BT tried to make a condition of wanting one union to negotiate on behalf of the people in M&PS. It started talks on the structure with the STE and, Wohl claims, there was no attempt to tell the telecomms group of SCPS about the negotiations until first proposals had been drawn up, compromising the group.

"This meant we didn't have the chance to negotiate at all on the M&PS," he says.

An STE spokesman says that the union was not at fault in starting the talks without the SCPS telecomms group, because it made it quite clear to BT that it was only negotiating on behalf of its own members. "When we were approached over M&PS we were faced with something we had to take or leave. If we hadn't negotiated we would have had something worse forced on us."

The telecomms group complained that BT, by saying it wanted to negotiate M&PS with one union, had made an unwarranted interference in union affairs. BT modified its position and said it was prepared to talk to one union body representing the unions involved.

Wohl says the SCPS telecomms group rejected this, because it would be unwieldy. Also the STE, representing more members, would get the lion's share of the negotiations. Thus the telecomms group would always be outvoted, which would undercut its effectiveness at representing its members.

"As a result we saw that the best way of defending our members we had was to consider joining the STE and trying to change its policy from within," says Wohl.

Pressure on the SCPS telecomms group has also come, according to Wohl, from the British Telecommunications Union Committee (BTUC), the joint body of all the unions with members in BT. The BTUC was set up in 1981, following the split of the Post Office and British Telecom.

The SCPS telecomms group was granted full status in the BTUC, but only on the condition that it rationalised, that is left the SCPS and joined one of the other BT unions. Last summer the telecomms group membership of BTUC was only renewed on the grounds that it carried this out before December.

Wohl contends that this time pressure was unfair. "We always understood that we were members of the BTUC on the basis that we rationalised. But the pressure as regards time undercut us in a big way."

Alan Chamberlain, chairman of the BTUC, said: "When the telecomms group joined the BTUC, it was given full constituent status for one year, provided it took steps to hold talks with other unions to transfer. These arrangements were then extended to the end of 1983. As this was the basis on which the telecomms group accepted membership, I think it quite fair that it should stick to it."

On the face of it, the telecomms group had a number of options when it started negotiating to join another union last year. According to Wohl, "we had six six months of demoralising work trying to open these options up".

The favourite choice was to join the POEU. This was because the POEU cherishes the plan of one union of all the people working in BT and, as the largest union in BT, it would obviously be the basis of such a combined union. "We decided we might as well join the POEU straightaway, as have to transfer again at a later date. Also the POEU is a powerful union," says Wohl.

Wohl says it was recognised that problems were likely in persuading some telecomms groups members to transfer from a white to a blue collar union. But those problems did not arise, because the POEU turned down the telecomms group on the grounds that it would mean establishing a management group.

Although POEU policy is to have one telecomms union, it has a fixed plan of how this should happen. Under this plan the first step is for the STE to join the POEU. It was proposed at last year's POEU annual conference that steps be taken to bring this about, but the motion was rejected.

Bryan Harper of the POEU says: "The members felt they did not want a union which represents the supervisory grades joining us."

Anti-STE feeling exists among the left wing national executi[ve of] the POEU, because it think[s the] STE was equivocal on suppo[rting] industrial action against priva[tisa]tion.

The proposal that the S[CPS] telecomms group should join [was] also rejected. The feeling was [that] it would be a Trojan horse, [as] once there was a manager[ial] group in the POEU, it would [be] hard to prevent the STE being [ab]sorbed as well.

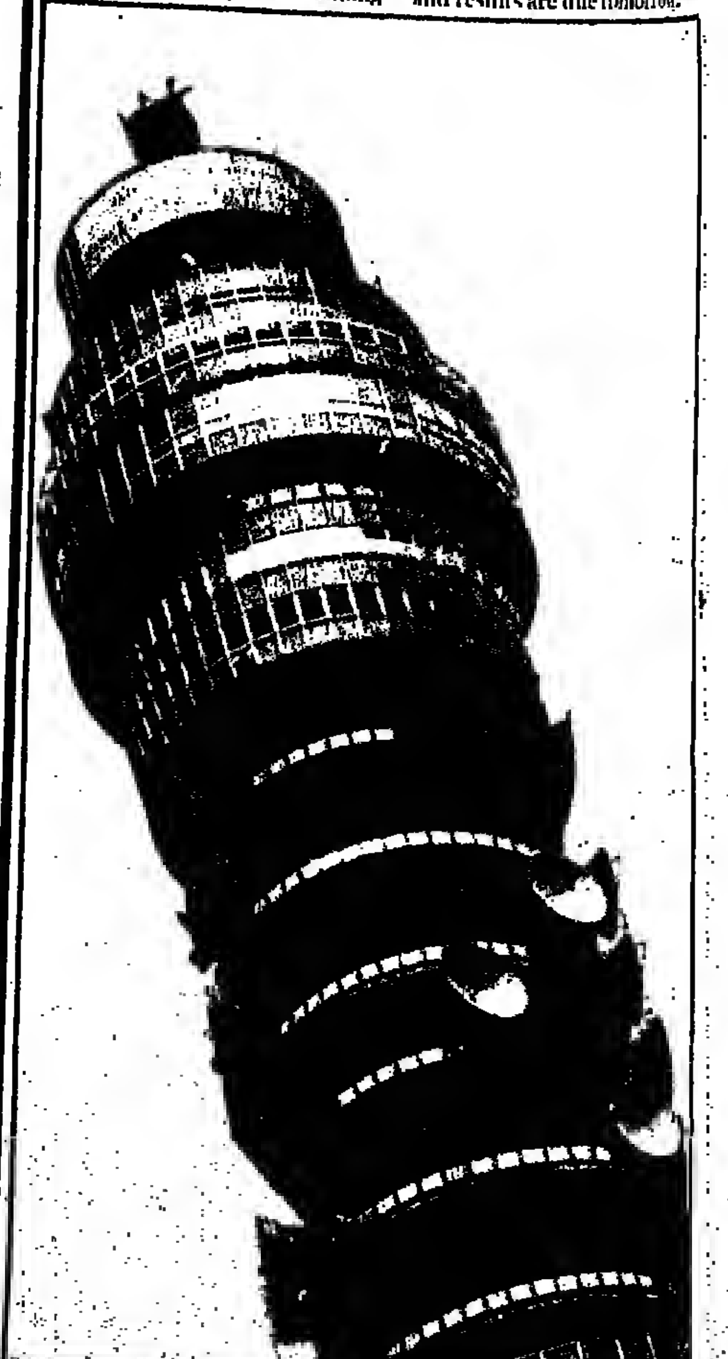
Harper says: "The principl[e of a] managerial group in the PO[EU] will not be a live issue for s[ome] time to come."

Another possibility that [the] telecomms group explored [was] joining the CPSA. Again there [was] the problem of a manager[ial] group joining a non-manage[rial] union.

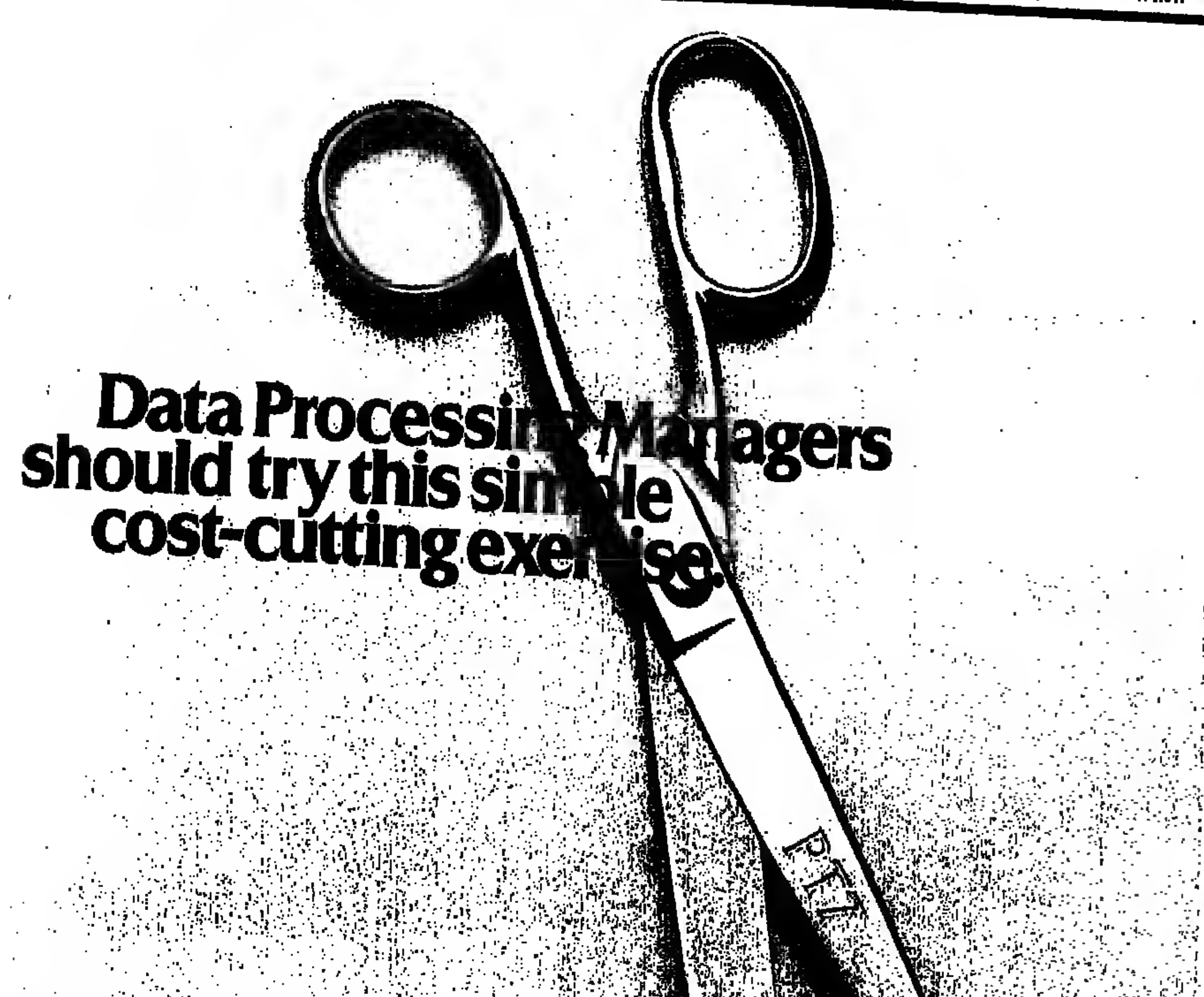
Members of the SC[PS] telecomms group fall into [two] grades, executive officers (EO) [and] higher executive officers (HE[O]). There is a handful of CPSA me[m]bers on EO grade. Wohl says [the] CPSA proposal that the SC[PS] telecomms group EOs join [it] them, while the HEOs joined [the] STE was unacceptable.

In the end the telecomms gr[oup] executive decided that joining [the] STE was the only option. "[Al]though this wasn't exactly popu[lar] with our executive, we knew [that if] we stayed in the SCPS we wo[uld] be booted off the BTUC a[nd] couldn't represent our member[s]," said Wohl.

In September last year it w[as] recommended to the SC[PS] telecomms group conference th[at] the executive should proceed [to] discussions to transfer member[s to] the STE. This recommendat[ion] was endorsed. Over last wee[k a] series of meeting has taken plac[e to] seek the approval of the membe[rs] and results are due tomorrow.



Will the telecomms unions join forces?



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SOFTWARE FILE

APL users go to the ISO

A BIG drive to make APL the all internationally standardised language reaches a critical stage at the end of this month.

The views of British users are being gathered and will be submitted to the International Standards Organisation during February. A crucial debate will take place in Helsinki in June, and experts are now hoping this will lead to the publication of the standard in 1985.

Other languages have gone via a national standard; APL is doing it the other way round.

Mike Sykes, chairman of the British Standards Institute's APL group, said the result could be the spread of APL among the users of small machines.

"It's far more suitable for them than Basic. The more I use Basic, the more I like APL," he said.

His employer, ICI, is already heavily involved with APL at various sites including Billingham, Northwich, Manchester and Runcorn, on both IBM and DEC hardware.

"It's more important that we have a standard than what it consists of," said Sykes. "We want packages to be able to run on more than one machine."

Paul Barnetson, of IBM Portsmouth, is co-ordinating the British submissions on the draft standard, but warns participants they will have to wade through a 350-page document.

"How often have you travelled abroad and found that your razor won't plug into the socket? That's how important the problem is," he observed.

Some 40 local authorities now use APL, almost all on IBM equipment. The local government APL user group is surveying existing APL applications in an attempt to cut down on duplication.

One of the major contenders in the APL software market, the international bureau I. P. Sharp Associates, last month introduced an IBM-PC implementation of the language compatible with its mainframe version. The same niche is being attacked by the London specialist Inner Product.

IPL director Dominic Murphy pointed out that the US government would not buy any software which did not have the ISO stamp, so this step could open up a large export market.

He said IPL would not be contributing to the discussion because it had looked at the draft already and approved it.

BULTEEL . . . "DP people underrate complexity by pensions."

Pension package offers relief

ONE of the biggest pensions administrators is starting to sell a turnkey system which could relieve many data processing departments of an important function.

Noble Lowndes, part of the Hill Samuel group, has had 16 software staff engaged on developing the programs since April 1981. Their aim was to create a suite to handle the business of 600 private pension schemes offered by smaller companies without their own pensions departments. Annual contributions into those funds total about £250 million.

Noble Lowndes had used the Lowndes Ajax bureau for batch record-keeping and a separate online quotation service, but decided it needed to combine the two. The new system was designed to be as flexible as possible.

To accomplish the task, which has cost over £500,000, the team invented its own fourth generation language, spoken only by the pensions fraternity. The complete package, including an integrated text processor and a report generator, is called Laser, an acronym for Lowndes Administration Services. About 360 of the schemes are now run by Laser, with the remainder expected by April.

Laser is being run on DEC PDP-11s at the firm's Croydon headquarters and at six regional centres dealing with the scheme owners' inquiries. Now systems manager Ken Bulteel wants to sell the package to companies of over 5,000 staff to operate in their own pensions departments, thus taking away one of the traditional jobs of the DP manager.

The first installation was at Westinghouse Brake and Signal, part of the Hawker-Siddeley group, at Chippenham.

The repercussions of the new product are unpredictable. Some DP managers may resist the encroachment.

Although pension funds have recently become topical, with inflation giving them an importance that has attracted the attention of both politicians and trades unionists, in Bulteel's view pensions work has always been the cinderella of DP.

"Those jobs always get pushed to the back of the queue," he says. "DP people have underrated the complexity of pensions."

Green Paper opposes copyright

HUGHES . . . Disincentive.

COPYRIGHT should be restricted to literary or artistic works and a new system of registered designs introduced, says a government consultative Green Paper.

The document, written by the Cabinet Office's chief scientific officer, Robin Nicholson, argues that the registered design should become the basis of intellectual property rights available for functional articles manufactured in quantity. Copyright would then be "restricted to what it was originally intended for" — literary or artistic works.

This argument cuts across the views of the current lobby building up in the computer industry, which has been pressing for copyright to be unequivocally established to cover such subjects as software.

The Green Paper urges that the Patent Office be hived off from the Trade and Industry Department to make it more responsive to the needs of customers. It would become a separate body with managers and advisers appointed by the Trade and Industry Secretary, but financed by customers' fees.

Whitehall is criticised for a lack of awareness and inadequate consultation on the question and is urged to set up a liaison group to overcome this.

Services as well as goods ought to be eligible for trade mark registration, argues Nicholson, and inventors should be allowed to take over their own works if their employers fail to exploit them.

■ In the Commons in December Junior Industry Minister Alex Fletcher said the government was committed to copyright legislation "as soon as possible". The new law would not wait on a European Commission memo on copyright not due before the second half of 1984, he promised.

Chairman of the British systems house Logica, Philip Hughes, speaking on the BBC-2 programme Beyond 1984, referred to the lack of copyright protection as one of the main disincentives to technological progress.

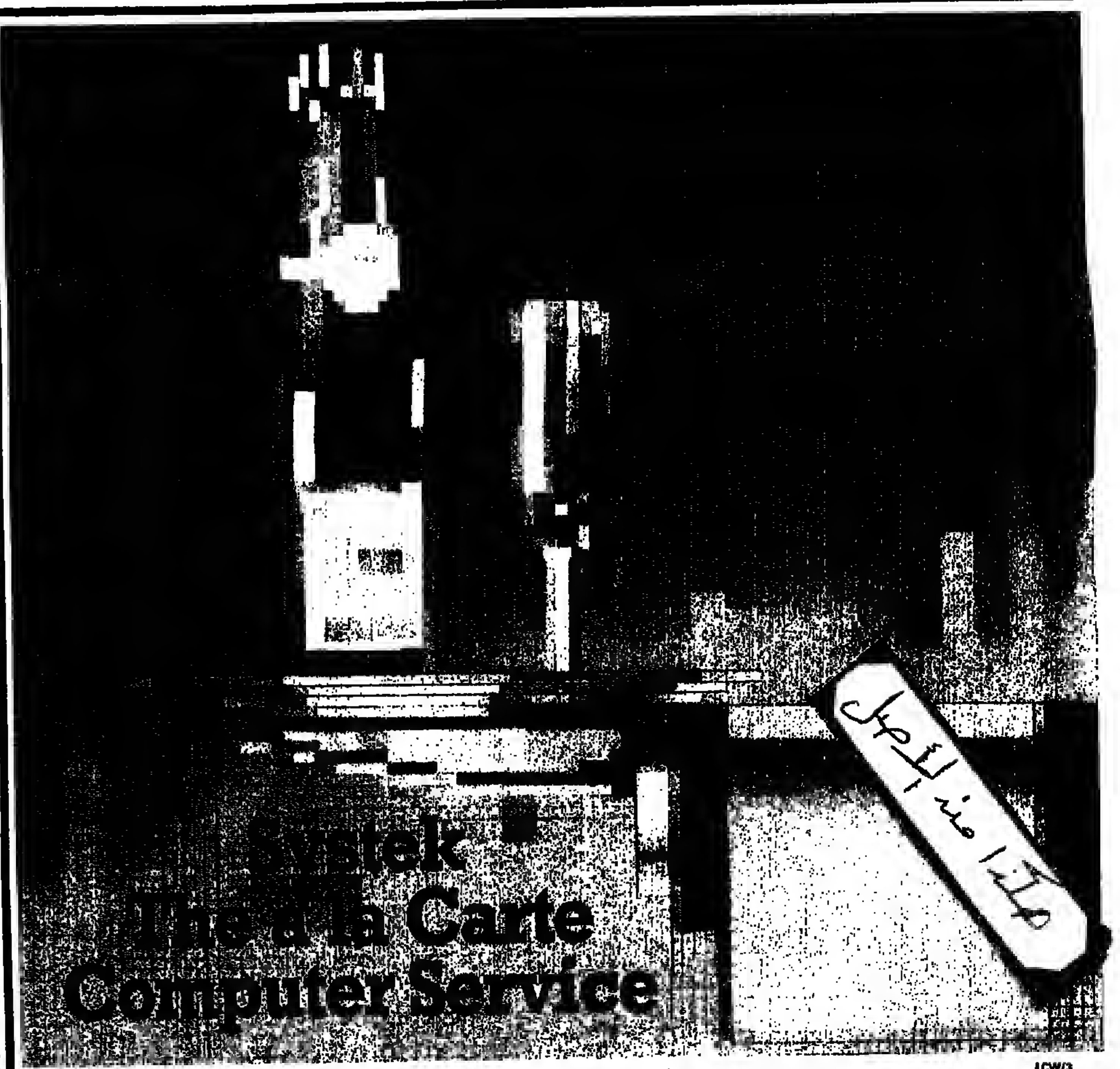
Alvey half-day seminar

A HALF-DAY seminar on the Alvey Programme, the national effort for the generation of computers, is being organised by the Computing Services Association. It will take place at the Strand Palace Hotel, London, on January 24 and the Alvey directors, headed by Brian Oakley, will answer members' questions on the involvement of small firms in the programme.

Fee expands

FEE, the UK distributor of UFO, Oxford Software Corporation's fourth generation language, is to open a new office in Manchester to serve the northern region. It will take over the distributorship run by Systems Resources in the middle of 1984. A new joint company is being established, owned 70% by Fee and 30% by Oxford.

Software File is compiled by George Black



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Everybody welcomes AT&T deal

AT&T's Christmas shopping spree in Europe – in which it went to the US with a 25% stake in Olivetti for $260 million – has pleased just about everyone, from Wall Street to the Italian Communist daily *L'Unita*.

Carlo de Benedetti, chairman of Olivetti, expects the alliance to compete with IBM – "Enemy Number One" – on a world level, and it certainly draws a battle line in the long anticipated confrontation between AT&T and IBM.

The deal is a remarkable vote of confidence in Olivetti. Five years ago the company was a debt-ridden typewriter maker. But in 1982 over 70% of its revenues came from distributed data processing products, with typewriters down to 15%.

Although the company still has debts of some 950 billion lira, they are manageable, and Olivetti has emerged as the second biggest company in its field in Europe, after IBM.

The company predicts that its 1983 turnover will be a record, of around $2.1 billioo.

AT&T paid Olivetti the ultimate compliment; it attempted to swallow it whole.

It is a sobering thought that AT&T could almost buy the whole Milan Stock Exchange if it had to. And although AT&T settled for 25%, with an option for 40% after four years, that represents the largest minority investment yet made by an American company outside the US.

AT&T's holding will be achieved by the issue of 100 million new Olivetti shares. This will dilute the de Benedetti family stake in Olivetti, held through CIR, from 20% to 18%.

And AT&T had to pay for the privilege. It is buying the shares at 4,300 lira each, which represents a premium of almost 33% over the price at which de Benedetti was able to retrieve the former St Gobain holding last November. That values Olivetti at more than $1 billion.

De Benedetti sees nothing to prevent AT&T from fulfilling its option to go for 40% ownership, though Olivetti, aod Italian industry generally, ia fickle in its international marriages. The Dunlop-Pirelli, and Citroen-Fiat partnerships did not last long, while de Benedetti's jaundiced view about European partnerships has much to do with Olivetti's experience with the French.

But AT&T has promised to respect Olivetti's European identity, and its European marketing network was an attraction.

DE BENEDETTI. . . . World battle with IBM.

Young firms get cash venture boost

TWO young British companies, Software Limited and Ambitron, have picked up substantial venture capital investment.

Software Limited, a software distributor based in the Alice Owen Technology Centre in East London, has attracted backing from 3i Ventures, formerly Technical Development Capital, the high risk arm of Investors In Industry.

Software Limited is coy about the terms of the deal, but 3i rarely gets involved where the funding requirement is less than £250,000. Software Limited's founding directors keep a controlling interest in their company.

Marketing director Charles Leonard said: "It's a lot of money – enough to see us to the Stock Exchange if we meet our targets."

Software Limited was set up in 1982 as an arm of computer retailer Computability. Twelve months ago it went its own way to specialise in business productivity software and had turnover of £1 million in the year to September 1983.

The company will use the funds to extend its product range, to increase its dealer network in the UK and overseas, and to develop its technical support facilities. In the longer term it intends to produce its own software, and to move into software retailing.

Tony Dimett, who is responsible for computer sector investments at 3i, has joined the board of Software Limited.

In the last three years 3i Ventures has put up some £[illegible] into 30 companies in the UK [illegible] the US. Its most notable high technology investments have been [illegible] dime and LSI Logic, whe[illegible] holdings now total £40 million [illegible] the company also has an interest in Pyramid Tech, Linear Technology, and Speech Systems Inc.

Ambitron, of Newbury, Berks was also started in 1982. Founder chairman Bill Hoffin, previously UK managing director of Versatec UK, and [illegible] four initial investors were all Versatec staff. The company markets an electronic funds transfer system called Sentinel and a range of peripherals and computer graphics equipment.

It was set up with a loan under the government's Small Business Scheme. Now it is to raise £600,000 from Swedish investment company Parlamenter.

Finance director Mike Phe[illegible] said Ambitron had looked for funding in the UK, but the money was specifically to help establish a marketing company in Scandinavia, and raising the money there was a positive advantage. The funds will be introduced over [illegible] years through a new company, Ambitron Scandinavia AB, based in Stockholm.

Hoffin said: "Parlamenter came up with the best deal fastest."

Ambitron had a turnover of £750,000 in its first year of trading and Phillips looks for over £[illegible] million this year. He said Ambitron might go to Parlamenter for a third round of finance.

Investors buy 35% of Quorum

QUORUM Computers, the Southampton compaoy formed out of the wreckage of the National Enterprise Board's QI Europe, has sold 35% of its equity to Moracrest Investments for an undisclosed sum.

Moracrest is jointly owned by the Midland Bank, British Gas Central Pension Fund, and the Prudential Assurance company. It has an investment portfolio of about £10 million.

Neither party will reveal what Moracrest paid. In September Quorum was reported to be ready to sell 35% in return for a capital injection of some £350,000.

Quorum was formed in a management buy-out from QI Europe, after QI Corp fell into Chapter XI bankruptcy in the US. QI Europe went into liquidation in May, but its assets had already been transferred to a wholly-owned subsidiary, Clipperglow. The deal was funded by a loan from the British Technology Group, which had previously owned 50%.

Since then the company has halved its workforce, subcontracted its maintenance to Nexel, the mainteoance remnant of Nexos, and formally launched its Q-Lan microcomputer local area network. The system uses the company's QuorumNet, which is also sold OEM by Canon UK and by NEC Europe with its PC8000 micros.

Quorum intends to use the investment to expand its product capacity, to develop its research and development section and to increase its sales staff.

Quorum said this round of financing would assure the coropany a stable future. It expects to have turnover of £1.25 million in the year to April 30.

Alan Brown, managing director of Quorum, views the investment as a vote of confidence in the company.

Alan Marsh of Midland Bank Industrial Finanace, who joins the board of Quorum, said: "There will be a lot of growth and movement in the networking marketplace." Moracreat had previous experience in that area with an investment in Xionics which it sold to Smiths Induatries in May, 1983.

BROWN. . . . Vote of confidence.

Seed bed centre opens

THE UK venture capital climate has improved beyond recognition in the last three years, but genuine start-ups still have difficulty finding funds.

The National Federation of Industrial Associations (NFIA) hopes to fill that gap with a scheme to set up "seed bed centres" where new businesses can share resources with the indirect backing of senior financial institutions.

While there is nothing revolutionary in the common services idea, the NFIA scheme provides for premises which will include computing as "part of the furniture".

The first centre, at Ilkeston, Derbyshire, has just opened, and two more are planned, at Harlow and Brent. They are expected to accommodate 100 new businesses between them.

Sinclair Consultaots has a £75,000 contract to manage the installation of the computer services in the centres, which will include accounting, word processing and telecommunications. At Ilkeston the system uses ICL personal computers.

Malcolm Hazel, a director of NFIA said the computing facilities were central to the seed-bed idea.

£300,000 software house stake

CITICORP has put £300,000 into SMB Computer Services, a software house based in Mansfield, for a 30% equity stake. SMB was set up in 1973 and had turnover of about £1 millioo in 1983. The company produces commercial applications for microcomputers, including ledgers and a report generator.

Managing director Geoff Abbott said SMB needed the cash to develop a dealer network in the UK aod its business in Australia.

Semi recovery

SEMICONDUCTOR industry recovery continues apace. With Zilog set to return its first quarterly profit, National Semiconductor has reported net earnings of $13.2 millioo for its second quarter against a $3.5 million loss in the same period in 1982. Sales for the quarter were up 33% at $369 million. President and chief executive Charles Sporck said both the semiconductor division, and the corporation as a whole, had their highest yet order books, while R&D spending had reached a record 10.4% of sales.

Into the red

CORVUS Systems, of San Jose, California, which produces the Omninet local area network, computer systems, and mini-Winchesters, expects an after-tax loss of $2.3 million on turnover of $12.4 million in the second quarter of 1984. This compares with a net profit of $1.1 million on turoover of $11.2 million in the same period last year.

U for grabs

TYMSHARE may have stopped talking to McDonnell Douglas, but chairman Thomas O'Rourke says the company is still up for grabs. No one is saying why the McDonnell deal fell through, but it now looks as if McDonnell tried to lower the price from $372 million, or $31 per share. New York analysts agree that Tymshare needs to be acquired by an affluent sponsor if it is to take advantage of opportunities for Tymnet, but that $20 to $24 per share would be a more reasonable valuation.

Profits slump

BRITISH Electric Traction, whose interests range from Wembley Stadium to Rediffusion, reports pre-tax profits up 17% at £31.7 million, on turnover of £522 million, in the six months to September 30, 1983. But its electronics sector business, which includes Rediffusion, saw a 21% fall in profits to £6.2 million, on turnover up 7%. Chairman Hugh Dundas said this was due to higher depreciation and interest charges, attributable to heavy investment in rental equipment.

In on the ACT

NEW York's own ACT, Advanced Computer Techniques, has an agreement with Syseca Logiciel SA, the French software company, and its affiliate Thomson CSF, in which Thomson CSF will buy 4.9% of ACT for $340,000, while ACT and Syseca will market each other's products. The companies are also to develop new software products together. First up will be a database managemeot system.

Cifer on the up

WEST Country microcomputer and VDU maker Cifer saw pre-tax profits up 59% at £1,352 million on turnover up 51% at £7,923 million in the year to September 30. Cifer has made sound but unspectacular progress since it was brought to the Unlisted Securities Market by Stock Beech & Co last June.

Great finish

SOFTWARE house ADR made a storming finish to its year in Europe. It did £2.5 million worth of business in November – three times its previous record month – selling 22 Datacom database systems, and taking 13 contracts for its application development system Ideal. November was the first month Ideal was available. ADR expects turnover in Europe to be up 30% at around £9 million in the year to November 30 1983.

Company News is compiled by Dave Madden

SHARES TABLE

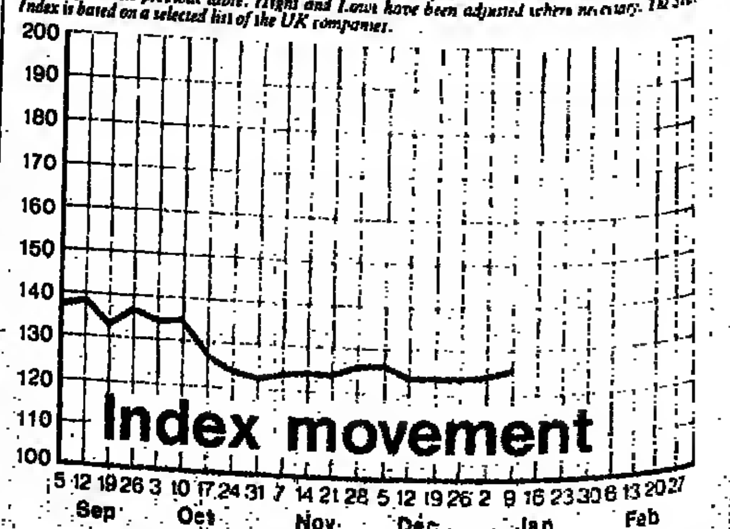
The shares table, which is specially compiled for Computer Weekly, [illegible] selected computer companies that reflect the state of the computer industry.

Previous published index 123.92
23/12/83 Index 129.95
29/12/83 Index 129.34
12/1/84 Index 128.14

1984 High (pence)	1984 Low (pence)	London Stock Exchange: Stock	Price (pence)	Chge
328	277	Abingworth (10p)	410	
645	240	ACT (Appl Comp) (25p)	615	10
441	145	Atlantic Comp (10p)	442	+33
88	41	B. Bus Reul (25p)	70	-7
193	124	Chubb (20p)	165	-1
118	118	Cole Group (25p)	144	
430	161	CASE (20p)	415	5
203	200	DPCE (5p)	203	-10
163	123	Datashoddin (5p)	209	5
665	628	De La Rue (25p)	560	
473	784	Extel (25p)	443	+23
688	411	Ferranti (50p)	612	20
248	177	GEC (5p)	111	
82	50	ICL (25p)	61	1
63	39	Kalamazoo (10p)	39	2
325	223	Kode Intl (25p)	247	+24
798	228	Logica (10p)	208	+28
625	730	Memec (10p)	180	-10
180	130	Muirhead (25p)	160	-16
690	459	N'market (1981) (0.05)	477	40
2700	987	Norsk Data	2468	-161
320	180	Office & Elect (25p)	186	2
1728	118	Philips Lamp (Fl 10)	1131	-183
760	178	Plessey (25p)	232	7
50	10	Quest Auto (10p)	37	1
187	184	Racal Elect (25p)	718	-8
320	226	Star Comp (10p)	255	-5
640	278	Systems Des (10p)	540	-35
246	214	Telemetrix (10p)	238	6
664	418	Thorn EMI (25p)	664	-15
167	120	UCB T (50p)	137	-4
210	130	United Leasing (20p)	210	-14
		Unlisted Securities		
127	104	Acorn (1p)	121	+12
179	28	Bus Comp (10p)	75	
130	97	CPU (5p)	120	1
180	113	Cifer (10p)	170	12
690	145	Consult (C&P) (10p)	595	5
295	187	Feedback (10p)	255	
314	115	Imm Bus Sys (10p)	118	15
91	75	Imtec (10p)	70	-1
737	163	Int'europe Tech (20p)	291	-11
84	27	J S D (5p)	35	-1
97	70	M M T (5p)	65	-6
300	160	Memory Comp (HR10p)	235	-3
285	107½	Micro Bus (10p)	255	5
640	269	Micro Focus (10p)	910	-12
445	310	Microgen (10p)	475	5
222	135	Miles 33 (10p)	214	-4
84	23	Mnemos (10p)	21	
240	198	NMW (E1)	197	-18
225	170	Real Time (5p)	215	20
160	88	Rolfe & Nolan (10p)	136	
197	85	ScanData (10p)	65	5
80	60	Trident Comp (10p)	60	
178	65	Zygal Dyn (5p)	118	

US Stock ($): High, Low, Stock, Price and Change columns, and Recent issues (Pence) [illegible]

The table shows the closing prices in London on Thursday and in America on Wednesday and the changes from the previous table. Highs and Lows have been adjusted where necessary. The Star Index is based on a selected list of the UK companies.



New micro speeds up Lisp

by Philip Hunter

COMMERCIAL artificial iotelligeoce applications can now be developed on a UK-built machioe. A spio-off company from micro maker Research Machines has announced a machioe that allows users to microcode their own instructioos ioto the hardware, instead of having to make do with the instruction sets supplied on ROM chips by the maoufacturer.

The advantage is that laoguages such as Lisp, which usually run slowly, can be implemeoted more efficiently.

The machines are built in Oxford by High Level Hardware (HLH), and already three pre-production models have been sold to universities for research, at prices around £15,000.

David Turner of Kent University has one of the machines to implement his own invention, a language called Saul. This is similar to Lisp, the language widely used in the US for artificial intelligence development.

The machine runs the Berkeley version of Unix, and David Small, one of the two founders, says the machine is also being used at Oxford University for conventional number crunching work in crystallography research.

Small admits the machine is not innovatory, and is similar to several US machines that have been on the market for over two years.

HLH uses eight four-bit slice chips made by the US firm Advonced Micro Devices to make a 32-bit processor – hardly a novel idea, but one which, according to Small, yields a powerful machine at a price way below that of the more powerful Lisp machine made by Symbolics in the US.

"For about £15,000 you get something similar to a Vax 750 running Unix," says Small. The symbolics machine costs about $100,000.

ROBINSON (left) and SMALL. . . . Co-founders.

Three agree on a CP/M home norm

by Philip Hunter

THE CP/M operating system could become a standard feature on Z80-based home computers, following a three-way agreement between Digital Research, Zilog and American Microsystems (AMI).

Digital Research is providing its Personal CP/M, a simplified menu-driven version of the standard CP/M, to AMI for inclusion in a single chip operating system processor based on Zilog's Z80, the chip used in many small personal computers.

The operating system at present has to be loaded from disc, the so-called "booting up" operation. But CP/M would be a permanent fixture for micros using the new chips.

Volume production of the chip begins in May, according to Digital Research European vice-president Paul Bailey. Prices have yet to be fixed, but Bailey claims it will give home computer makers cheap access to the deep well of applications software written for CP/M.

Bailey describes Personal CP/M as the eight-bit user friendly derivation of Digital Research's CP/M 2.2. "This is the first marriage of a processor and Personal CP/M," he says.

The code had to be changed to allow it to be included in 8K of onboard Read Only Memory (ROM), which will be embedded in a standord Z80.

Already Acorn Computers has been linked with the new chip, although Acorn's marketing manager John Cadwell will not confirm that there is any deal.

The agreement between Zilog and AMI goes further and covers development of other integrated versions of the Z80 processor to tailor it for specific applications, including input/output.

AMI will develop the Z80 for these applications using its ACT computer aided design system, and Zilog will become the second source when the design is complete.

AMI product manager Steve Sharp confirmed last week that AMI and Zilog will develop other integrated processors in separate deals from the one with Digital Research. "They will be used both in low end home computers and in esoteric dedicated applications."

Comart gears up for DHSS contract

by Keith Holder

UK micro manufacturer, Comart, has put on a new face in a bid to land a prestigious DHSS contract. It has formed a subsidiary which will take over design, manufacture, development and marketing of its successful Communicator range of computer systems.

The move represents a "coming of age" for the company, said group chairman David Broad, and will take the group away from its role as a distributor.

The subsidiary, Comart Computers, will more than double production capacity of Communicator systems, to 6,000 a year, and cost about £100,000 to set up. Broad said everything was already up and running, and operations would start immediately.

Apart from presenting a more self-sufficient image, Broad admitted that the consolidation of manufacturing facilities was, in part, designed to make the company an attractive contender for the government contract to supply DHSS offices with computer systems. This could represent orders for up to 2,500 machines.

The company is already busy building both eight- and 16-bit Communicator systems for careers offices, following government approval to supply systems under a local authority grant scheme. This will continue until March and Broad described it as "a flying start for 1984".

The success of the group is reflected in its nominatioo by the research company ICC as Britain's most successful performer in the computer industry for the past two years.

BROAD. . . . Coming of age.

Intel slashes its prices

THE scale of Intel's price cuts on the 432 processor family came as a pleasant Christmas surprise for most industry observers. Some processors were reduced to a quarter of their previous price.

Sales had not looked stunning, but it was assumed that many buyers had been defence contractors bound by Official Secrets Acts from revealing their activities. It was also believed that there would be no savage price cutting in what is very much the "Rolls Royce" end of the market where the silicon cost is less important than quality of hardware.

Intel claims that the price cuts follow directly from lower production costs, coupled with performance improvements.

"Some instructions, such as a procedure call, now execute more than four times faster than in previous releases," said Bob Patterson, Intel high-end microprocessor marketing manager. The 432 chips are sold mostly for Ada applications, for research and development or defence work.

In the UK, Ada engines based on Intel's Ada compiler and the 432 chips are built and marketed by High Integrity Systems. "The price cuts will allow us to make out board and box more cheaply," says High Integrity marketing manager Richard Emerson.

Newbury offers Apple disc

A BRITISH-MADE, removable Winchester disc system, designed for Apple computers, goes on the market this month.

Newbury Data will offer the system, based on the Intec 505 controller, and will licence-build the discs which originated in the US.

Intec says the system offers a vast improvement over earlier removeable Winchester disc systems, and offers full potability and head crash protection.

Earlier systems had given removable Winchesters a bad image because the discs were not transportable and would work only on the controller used to write data on to them, said commercial director Martin Hilley.

A few reasons why

Business Computers SEIKO series 8600
Micro Super Graph
Intelligence Distribution
apricot
ACT Sirius 1
Systems Division
Intelligence in The City
IBM
Mathfile
Micro Find
PC EXPRESS
Technical Centre
Intelligence Research
Micro Broker
Micro Linkline
Micro Modeller
Training Division
WANG

Only the fit will survive

When you're making a decision about micros for your business, you have to be certain that the company you're dealing with has the kind of strength we can offer. A complete computer organisation with the resources today and the strength to serve you far into the future.

You need the assurance of a supplier with an established client list of over 6,000 companies, a large number of which are in the 'Times Top 1,000'. An enviable record with leading city institutions, banks, accounting firms and insurance companies. An organisation with experience across a wide range of industries, from petroleum and engineering to manufacturing and retailing.

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The Complete Computer Organisation

PROFILE

The kid who grew up with enterprise

ENTERPRISE runs in Dan Bricklin's blood. Ever since his childhood, Bricklin has been brought up to run his own business, and now the 32-year-old chairman of Software Arts and inventor of Visicalc can look back at his career with more than a little satisfaction.

"Of course you run your own business – I ran businesses as a kid and got used to people paying me money," he says.

Both his parents and grandparents ran their own printing concerns, and Bricklin backed up this entrepreneurial upbringing with a spell at Harvard Business School.

Bricklin graduated in electrical engineering and computer science from Massachusetts Institute of Technology (MIT) in 1973. That is where he first met Bob Frankston, co-founder of Software Arts and co-writer of Visicalc.

He joined Digital Equipment and opted to work in the field of computer typesetting rather than systems programming. "It was very practical," he says. "I turned down systems programming because of my background in printing and graphics."

One of his jobs was to typeset obituaries: "You had to get the work out on time and if it was 15 minutes late you heard about it. Obituaries were always the first to be typeset because they wanted them up to date – and they just had to be right," he recalls.

After three years at DEC he moved, becoming lead programmer with Fasfax, a small company which sold intelligent networked cash registers for the fast food industry.

"That was very interesting," he says. "Head office knew at any one time exactly how many jars of

by John Riley

pickles there were on a shelf. Fasfax showed me that a small company, with a turnover of around $1 million, could make it."

After a year there he went to Harvard Business School to take an MBA degree. "I thought that there must be some secret recipe you could learn from business school," he explains. "Well, there wasn't any magic, but I did learn how to speak the language of business."

Bricklin is a firm believer in the value of a formal business education. "It meant that I could talk to bankers and borrow money, and contracts would have been written up differently without it.

"It is worthwhile for anyone going to set up a company to get business training and experience – or, failing that, to get together with someone who has. At least it means that you don't make gross mistakes," he says.

It was at Harvard Business School that he had the idea of producing Visicalc – "word processing with numbers" – as he puts it. He wrote the prototype in the autumn of 1978 and worked with Franston to finish it by the summer of 1979. "Bob wrote the program and I wrote the spec," he adds.

After initial problems persuading anyone to take it on, Visicalc was marketed by Day Fylstia Personal Software, which later changed its name to Visicorp. Visicalc was an astounding success, and became the standard spreadsheet application on eight-bit machines.

With success came the accolades. Bricklin can pick out several highlights from those early days. "It was a heady moment the first time I spoke about the product to 200 people, and again later on when an audience of 2,000 people laughed at a joke I'd made."

He remembers with pride winning the Grace Hopper Award, which is a national award for a significant achievement before the age of 30. "I'll never get that again," he mused.

He also became the youngest distinguished lecturer at MIT, although he believes that someone else has now robbed him of that distinction.

Visicalc has attracted horders of emulators. Bricklin distinguishes three types: those who steal programs; those who use them without paying; and those who come up with similar products.

He hits out at the first two, but shrugs off the latter: "You always get people who make the same thing with different colours," he says. "But people vote with their pockets. In any case we can't be everywhere."

Bricklin sees the key to software success as ease of use: "Visicalc was designed for ease of key strokes," he says. "We always assumed that the person using it would be in a hurry. We aimed to compete with the back of an envelope.

"The situation we envisaged helping was where, with a 32 Kbytes machine, businessmen managing, say, merger negotiations, facing each other across the table could get the information they needed at their fingertips to make critical decisions on the spot. Every key stroke bothered us."

Bricklin's follow-up to Visicalc, an equation processing package called TK! Solver, is being marketed by Software Arts, which is currently locked in a legal battle with Visicalc.

TK! Solver, which Bricklin calls "engineering basics and word processing", will, he thinks, become the "Skateboard of the 80s". He adds: "It's designed for users to get in very deep very early – it only takes 18 pages to learn how to use it."

BRICKLIN . . . "I turned down systems programming."

Bricklin recently came over to the UK for the first time and found a different approach to marketing in Europe:

"At a trade show in the US, people walk in and walk out of your stand quickly. Over here, people spend 20 minutes or so and expect you to have drinks for them – it's a different way of marketing."

Bricklin is not giving away clues about products in the pipeline, but does say that "hot markets" at the moment include window systems and integrated database systems, and he sees great scope in the future for visual programming – "representing on a computer what you'd put on a piece of paper".

PLATFORM

Putting a record straight

Don Yeates is chairman of the British Computer Society Systems Analysis Examination Board.

DURING November and December, various articles appeared in *Computer Weekly* about the work of the Systems Analysis Examination Board and the changes the Board is making to its examination syllabus to introduce structured methods.

The purpose of this Platform is to present the facts as the Board sees them, and to do that, we must first of all look back a few years. The Systems Analysis Examination Board was set up in 1967 by the British Computer Society. It's job was to establish, organise and run an examination system for a new basic systems syllabus which had been prepared under the aegis of the National Computing Centre.

This original syllabus, and two others for preparatory courses, formed the basis of the then National Plan for Systems Training. In parallel with this activity, the NCC prepared training packages for all syllabuses although the one for basic systems became the most widely used.

Over the following 16 years the role of the Board has developed and the position of the NCC in relation to the Board has also changed. It will be helpful to summarize the present roles.

The Board has three responsibilities: to set up and maintain a syllabus appropriate to the training of new systems analysts; to approve new courses and course providers and ensure that standards are maintained; and to examine students on completion of their training through a stable and fair examination system.

As a commercial activity outside the control of the Board, the NCC produces training materials which it sells or hires to people wishing to use them. The use of such materials however is not a requirement for approval of a course.

The courses themselves are run by a variety of organisations, and looking back over 1983, I see that 49 different organisations actually ran 111 courses leading to the Board's examination.

From time to time, the Board carries out a major review of its syllabus in consultation with examiners, tutors and employers, publishes a new syllabus and sets a target implementation date. Just such a review has resulted in the issue of a new syllabus.

In September, this was presented to examiners and tutors. As a result of this meeting, the implementation date was put back until January 1985, thus extending the length of time during which the old syllabus will continue to be used.

The Board believes that the introduction of structured methods into the routine training of system analysis is essential if systems methods are to evolve fast enough to produce the kinds of systems users need.

As has always been the case, course organisers are free to choose how many of their courses are run to the Board's new syllabus, but the Board earnestly hopes that more and more analysts will be trained through an increasing number of courses in the new methods embodied in its syllabus. Indeed, we believe that the press of events will increase the speed with which users change over to structured methods.

Don Yeates

DOWNTIME

Progress back-firing

IN these days of word processors and electronic typewriters, the job of writing has become much less of a grind than it was two or three years ago. Companies can now use their own technology to churn out advertising puff – hours of heart (and dictionary) searching by authors have been replaced by a single key which can produce reams of nonsensical stuff so beloved of the advertising industry.

Take the following, for example.

"Never in the history of computing has such a revolutionary new leap forward in technology been achieved by the application of our talented design team, linked with the very lastest decision support systems and advanced CAD/CAM installations . . ." and so on.

But the publishing industry is still slow to adopt new technology.

Take for example the experience of ICL. You'd expect its technical authors to be using the very latest in text handling. Indeed, new technology is used, but by data entry girls. Due to union pressure, the poor old writers are required to write VME manuals out in longhand before passing the manuscripts to the data prep department.

Who said new technology replaces jobs?

"The data preparation department is ready when you are, Brother Dominic."

The taxman cometh

AMIDST the new year greetings from trade unions (like Happy New Year and death to the Tories, to quote just one example) in my latest copy of *Labour Research*, I came across an interesting little article on tax evasion by large companies.

And interestingly enough, a simple means of disposing of the odd $10,000 plopped on my desk the very same day.

For this modest sum you can be the proud owner of a two-volume report on trends in the converging fields of telecommunications and computing.

Well, it's got to be better than giving it to the taxman.

Mine of info

REPORTS from the West Country indicate that people just aren't interested enough to bother with home micros once the initial enthusiasm has worn off. A pawn shop in Bristol is doing a roaring trade in unwanted machines.

10 YEARS AGO

FROM COMPUTER WEEKLY OF JANUARY 10, 1974: ICL restored its 60% share of the local government market – recently under attack – by winning orders from two local authorities . . . Selcon bid for a 76% share in a French bureau firm, SETM . . .

Complicated

INFORMATION technology is a wonderful thing. Look for example at the recent acquisition of 25% of Olivetti by AT&T for a modest $260 million. Coincidentally, someone from Olivetti rang me up only last week asking for information. He wanted to know an address. The address of AT&T.

Now it is quite likely that they only wanted to know if the cheque was in the post, but one wonders just how good all this information flying about is. If it's all coming from me, God help the world.

Chad

PUZZLER

```
        OXMY
CO / MPUTOR
     YXR
      ZYT
      ZUP
       YOO
       YMC
         TR
         CO
         YC
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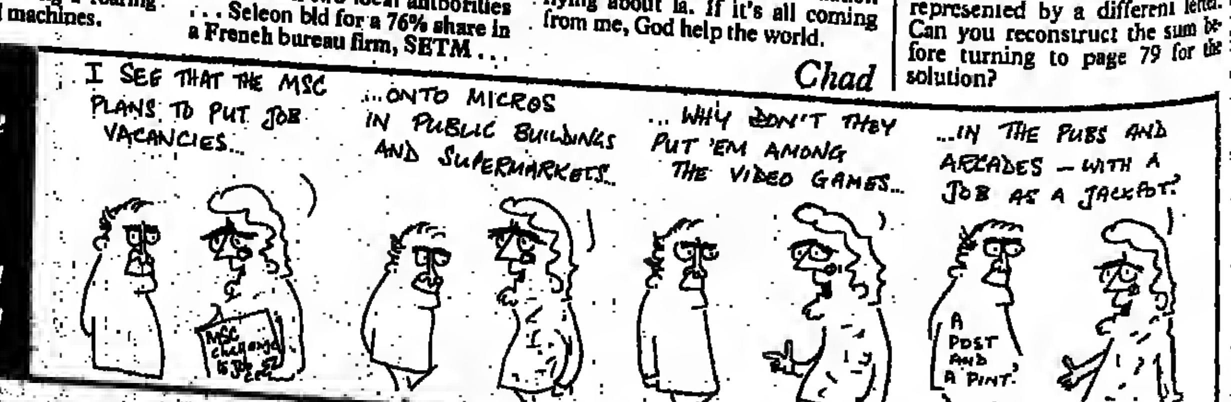
All 10 digits are present in this alphametic division sum, each one represented by a different letter. Can you reconstruct the sum before turning to page 79 for the solution?

Liveware File

by Don



ComputerWeekly
Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS
Thursday, January 12, 1984

Give support to school schemes

OVER the past few years the government has pointed proudly to its microcomputers-in-schools programme. It has claimed to be far ahead of the remainder of Europe in ensuring that every primary and secondary student has access to a computer, and cites the programme as an example of how it is using information technology to educate the next generation of the UK workforce.

Last week, however, the programme came in for a barrage of criticism from the teaching profession. The main problem centres on the lack of training that teachers have been given to help them to use the microcomputers effectively as a teaching tool. There are also complaints about inadequate support and software.

Criticism of the microcomputers-in-schools scheme is not new. The main argument is that the project is mere window-dressing. It has been reported that the average student will spend less than half an hour on the micro in any given year – possibly playing games.

If the government did not have a microcomputers-in-schools programme, the cries of the critics would be even louder. But that is not really the point. While government leaders go around patting themselves on the back exclaiming what a marvellous thing it is to have all these young children learning the wonders of microelectronics, the teaching profession is tackling the real problem of ensuring that students actually get some benefit.

As it stands, putting a microcomputer in every school is a great government idea – but only great for the government. Once the applause dies down, the teaching profession is left to point out that it is the bemused teachers who are left with boxes of electronics they do not understand.

Some teachers have made a virtue of their ignorance and let the students take over the teaching of computer studies. It makes a good story, is even effective in some cases, but it highlights the problem rather than pointing a way to the solution.

Most secondary schools have formed computer clubs in an attempt to give the avid student more time to work with micros. Usually, however, the demand is so high that some students have to be turned away. That can be a frustrating experience for student and teacher. Whether it means that the students turned away lose their initial enthusiasm is hard to determine, but for some students there may never be a second chance.

One of the flaws in the microcomputers-in-schools scheme is that it came from the Department of Industry, not the Department of Education and Science. There are cynics who say it was merely a way of boosting the then fledging microcomputer industry.

Central government has allocated some £20 million on the equipment. Now the DES is having to put together another £20 million into software and teacher training.

Teachers properly point out that the computers are of no use without good software, proper teacher training, and even a rethinking of what classroom teaching is all about.

Many of the problems are based on inadequate funding: to ensure that all primary and secondary students get an adequate computer training would cost a great deal of money. The French government, for example, has said it will spend some £120 million over the next few years to carry out a similar plan.

More money, of course, is an easy answer. It is not, however, really a question of money, but of priorities. Last week education Secretary Sir Keith Joseph called for fundamental changes in the educational system so as to raise children's knowledge and skill levels. Perhaps the changes he suggests can be brought about without any additional funding, but the onus is on him to explain how: too many schools are already scraping the bucket to maintain minimum standards.

If potentially useful schemes such as the microcomputers project are to be successful, the government should be prepared to support them properly. Eye-catching gestures might be good for the political party in government at the time, but they are not necessarily good for the country.

1984 and all that . . .

THIS week's example of the strange things people say about computers was sent in by T. London of Balerno in Midlothian, Scotland, who wins £5.

Military experts are less sanguine. They see a Soviet military machine running on Vax computers and chips from video games made in Hong Kong.

The Scotsman

LETTERS

What about the Unix graduates?

ONCE again the experts from the CCTA have displayed their ignorance about software, its applications and development. Jeff Webb, as quoted in *Computer Weekly* of December 1, claims that "Unix will not achieve the dominance predicted", "it needs someone to come up with another shell and more multi-user facilities", "uses a large amount of resources" and "the public needs user friendliness".

It is fairly obvious that he knows nothing of the thousands of university graduates who are learning Unix and C as the basis for their contribution to professional programming, or nothing of the hundreds of Unix sites linked by networks around the world exchanging vital news and technical information each day. He does not appreciate the power of c-shell (and its similarity to C) or the excellent multi-user facilities provided by Unix on the large machines.

And since when does a good package for public use depend on the user-friendliness of the operating system?

Is a 10-user Unix system with 40 Mbytes costing less than £20,000 expensive when compared to large mainframes costing over £500,000 and supporting 100 users? When memory boards cost less than £2,000 per Mbyte, who cares if you need a bit more memory to support Unix?

No doubt, the CCTA is following its rulebook which says that a difference of £1,000 on a £250,000 contract is more important than real benefits to its users.

Mr Webb, you have your priorities all wrong. Why don't you attend a few Unix user meetings? Ask yourself why all the major research institutes are using Unix? Why have many tens of software houses started converting their software for running under Unix and C to improve portability and productivity? Why have all the manufacturers (including your favourite ICL – only three years after most other companies) introduced Unix?

The most frightening aspect of his public statement is that the entire government software development is in the hands of such people – their view of our industry is through the small micros, old ICL installations (using even older software developed by hordes of programmers from scratch), and using non-standard operating systems. They are busy inventing wheels when the rest of the world uses ballbearings or even ready-made cars!

In addition to all the other complaints levelled at the CCTA, perhaps it should dedicate more resources to: ensuring that it keeps ACTIVELY in touch with the outside world; getting its trades list computerised so that it can inform all possible providers of services regularly about its needs; buying more ready-made packages; learning what software engineering of the 80s and 90s is all about.

ISAAC KATZ
London NW11.

There's a lot in a name

REGARDING the article "Credit to the retail sector – by phone" (*Computer Weekly*, December 8, page 18), it would seem to me that if Gil Jones cannot even get the name BACS right – it is Bankers' Automated Clearing Services Ltd, not British Automated Clearance Services as quoted, it casts some doubt on the rest of his article.

W. P. FEATHERSTONE
Technical officer
National Westminster Bank
London EC2.

Don't count on the Russians being wrong

"HEAR, HEAR" to H. R. Simpson ("It will be a disaster if Ada is the basis of real time systems in the 1990s" – *Computer Weekly*, December 15).

But any hope that the Russians might make the mistake of copying Ada for their own advance warning systems running on East European copies of yesterday's mainframes no doubt, is surely incredibly misplaced. After all, their missiles are pointing at us.

C. PERCY
Blackheath
London SE3.

More letters – page 20

Write to us

The Editor welcomes letters commenting on subjects published in Computer Weekly, *or on original topics. All letters must be accompanied by the writer's name and address, not necessarily for publication. Letters may be cut.*

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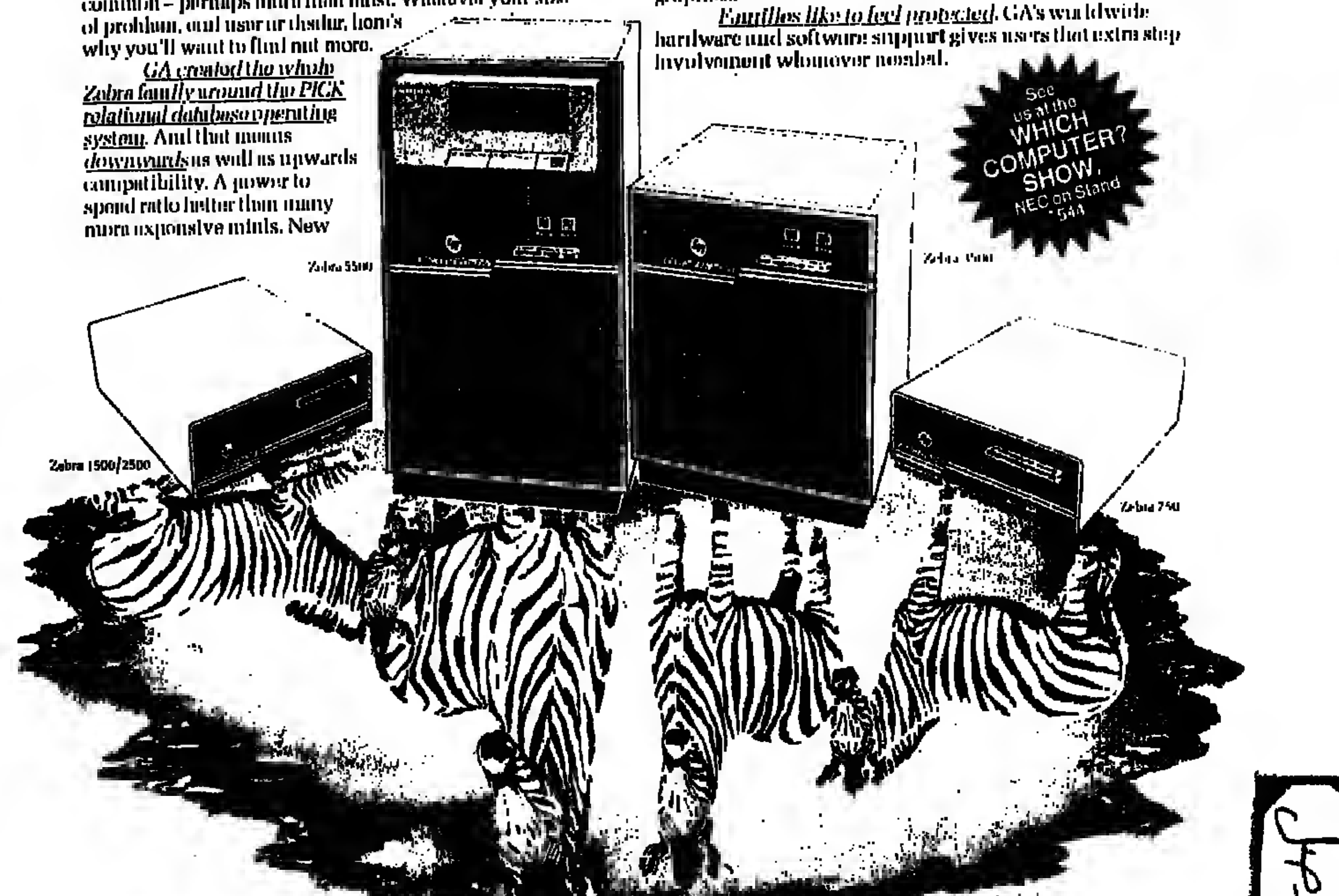

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Keep calm—the new Fortran won't change the language

Brian Meek allays the fears of Fortran fans who are anxious about the proposed BSI standard

I EXPECT BSI to publish during 1984 a draft for comment of a new British standard, called "Method for Specifying Requirements for Fortran Language Processors".

As I am secretary of the drafting committee, and the current working version exists as disc files in my space allocation on the Queen Elizabeth College Vax, I know that this working version is getting towards a publishable state.

The aims of the project to produce this new standard are at once very modest, and very ambitions. There have been certain frissons of alarm in the Fortran community about what we are doing, because some people have the idea that it is very ambitious in the areas where in fact it is very modest!

One thing this standard will not do is change the language despite what some have thought. Quite the reverse: one of our main intentions is to promote the use of Ansi standard Fortran 77 and enhance the value of that standard.

Strict conformance to that standard is indeed a prerequisite, the first requirement that the draft British standard will specify: so

The aims of the project to produce this new standard are at once very modest, and very ambitious

much for the groundless fears that some have expressed, that Ansi Fortran and BSI Fortran would somehow be in conflict.

This is not to say a programmer will not find it wise to modify his Fortran 77 program in order to gain the maximum benefit from the new standard. He will not be forced to; a standard-conforming program will still be a standard-conforming program, and if it is run on a processor which meets a BSI-conforming specification it will retain all the benefits that the Ansi standard bestows. In this context, processor means the hardware and software system on which a program is run.

In fact, it will gain more benefits, since the BSI-conforming specification will ensure a certain minimal level of quality in the way it is processed. But by taking note of the British standard and designing the program accordingly a programmer will gain more: an assurance that, in addition, the program will run, and in a more predictable way with consistent results, on processors which meet BSI-conforming specifications.

On processors which meet only the Ansi standard but not a BSI-conforming specification, the program will just have to take its chance, as it does now; but in that respect the position is no worse than before.

The new standard does not seek to take away anything from anyone — not even freedom of action. What it does is to offer something extra to those who, within the wide range permitted by the Ansi standard, wish their Fortran processors to have certain properties, in the interests of greater portability and greater predictability. This is why I say the aims are modest.

It will be possible to use it as a checklist of features to look for

Specifically, what it offers is in effect a set of guidelines covering a wide range of properties, and a standard, systematic way of specifying those properties.

To be sure, the standard is being drafted deliberately to allow someone who wishes to lay down a very tight and rigorous specification for a processor to be able to do so. But there are many ways to use standards and the mistake should not be made that this (which could be regarded as an extreme) is the only way.

If we had wanted to put implementors in straitjackets, we would be producing not a standard way of producing specifications, but a standard specification — a very different beast. With a standard specification, the standard itself lays down the requirements (as the Ansi standard does for Fortran programs) and, in principle at least, some testing agency can validate products against it.

In this case, the standard provides rules for its user to follow but it is the user who specifies his requirements — and of course it is the user who then determines whether the product meets his needs. This difference is crucial to understanding our intentions.

One step down from a rigorous specification of every feature is for the user to produce his specification but omitting or softening items which are irrelevant to him.

To take a simple if unrealistic example, if he knows he is never going to use character data there is no need for him to specify requirements for it.

Although a specification produced like that will not technically conform fully to the British standard, it will have far more commonality with other such specifications than can ever be the case if no standard existed. More important, however, the processors themselves which meet such specifications will have much greater commonality than is the case today.

One of my greatest hopes is that implementors of Fortran will still use the new standard, even if continuing to work with the untrammelled freedom (or licence) which, thanks to the anarchic tradition, they have come to regard as their birthright! I hope they will use it to write their own specifications — or, at the very least, as guidance.

Ideally, seeing the benefits that greater commonality will bring, they will follow the standard as far as they can, departing from it only when providing a feature is prohibitively expensive on their machine, or irrelevant to the intended use of the processor.

Of course, the "ego-trip" implementors who regrettably are still around — for example, the ones who implement what they think ought to be in the Ansi standard, rather than what actually is in it — will regard any such guidance as an affront, an attack on their professional virility.

There is not much one can do about such people except to try to get them to change to some less harmful pursuit. But I believe responsible implementors will welcome this new standard, and appreciate the clear indications it gives of what users look for in Fortran systems.

Mention of users brings me to the third way of using the new standard — not to produce specifications as such, but as a yardstick for evaluating processors. It will be possible to use it in its entirety, as a checklist of features to look for,

To be sure, the standard is being drafted deliberately to allow someone who wishes to lay down a very tight and rigorous specification for a processor to be able to do so

or as guidance on what to ask about or test in critical areas. Some users will find it useful just as a means of reminding themselves not to overlook particular aspects which they might otherwise take for granted.

Quite a lot of people, used to a reasonable Ansi standard compiler, assume it is the Ansi standard which has ensured that they have various nice features, which in fact have been provided by a benevolent implementor.

They can get quite surprised when they move to a different (but still standard-conforming!) compiler whose features are very different. The new standard will make it clear just what parts the Ansi standard does not reach, and provide ways of reaching them.

So I hope users will increasingly be looking to see how well Fortran systems measure up to the new standard, and look to suppliers for assurances, or at least information, on this point even if they do not use it directly to produce a specification. From this point of view, it could be seen as providing weapons for users against implementors — indeed, in my more militant moments I have described it in these terms!

A fairer way to look at it is that it will provide an agreed refe[rence,] something which can be used [as a] basis for discussion and [nego]tiation which both users and [imple]mentors (or purchasers and vendors) can accept as an independent set of criteria.

Even if the standard were [used] only in this evaluative way, I believe it would still be worth [doing].

So, our aims really are modest. We are not trying to [change] the Ansi standard, or implementors, in concrete, to use the [...] apparently now going around the ranks of the Fortran fa[ithful;] rather we are trying to clothe [the] naked Ansi standard with de[cent,] practical, useful garb (but n[ot a] uniform) so that Fortran pro[ces]sors will more certainly be [...] become acceptable, respect[ed] members of civilised comp[uting] society.

So much for our m[odest aims.] The ambitious ones will have [to] wait for a later article. I shall [give] just one hint. Our ambitions [are] not confined just to Fortran.

Brian Meek is the director of [the] Queen Elizabeth College comp[uter] unit.

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Merlin weaves some new magic

Many will have noticed that BT's brand of wizardry — Merlin — has learned the art of self-promotion. Nuala Moran talked to the man behind the marketing

STAVELEY . . . "Local area networks are a doddle."

MASSIVE publicity on television and in the national newspapers has made it difficult to avoid the name of Merlin, part of British Telecom's Enterprise division.

As a result of the campaign, most people are probably aware that Merlin sells business micros, since that is what it is pushing so hard in its advertisements. But they are probably wondering where it flew in from.

Merlin is BT's marketing organisation for business terminal equipment. It is not new, it is a re-organised, re-vamped, re-named business products and systems sector. This was a £500 million per year turnover distributorship handling communications equipment from all BT's traditional suppliers such as Plessey, STC and GEC.

Merlin still deals with this end of the market. What is new is the move into the office automation market which is backed by a new nationwide sales and service organisation.

Merlin is also a new name.

The first event leading to the establishment of Merlin was the separation of BT from the Post Office in autumn 1981. According to Nick Staveley, Merlin's marketing director, it was this that first stirred the latent commercial interests of the civil servants in BT.

Merlin was not the only thing to come out of this reorganisation. The whole of BT was reorganised into four divisions, BT Inland, BT International, BT Major Systems, and BT Enterprises, of which Merlin is part.

Other subdivisions of BT Enterprises are Consumer Products, which deals with domestic telephones; Information Services, which includes Yellow Pages and Prestel; Spectrum which includes BT Gold, the electronic mail service, teleconferencing and radio paging; BT Silver, an electronic funds transfer service, and telemarketing.

"We are still making sure we stop thinking like civil servants"

The idea behind Merlin and the reorganisation of BT is to make BT an entrepreneurial and market-oriented company before it is privatised. In the same way that large hardware manufacturers are now realising they need communications expertise to be able to market integrated systems, BT Merlin needed to take an interest in computers.

Staveley said: "The intention was there for about two years to get into computers, but it was last July we started putting in resources.

"The name, BT Merlin, was something we came up with after we'd been through the performance of getting professional advice on what to call ourselves. It appeals because of Merlin the wizard, who was a problem-solver, and because of the bird of prey of the same name.

"But the name was only the tip of the iceberg," said Staveley. "We reorganised as a business and reappraised our position in commercial terms." When this process started, the division that became Merlin was spread across numerous departments in buildings all over London.

Bringing this together took time. "The whole process took several months. We set up central offices in Howland Street in London, formed new structures and brought in new skills," explained Staveley.

Staveley claims that Merlin was already the biggest distributorship of information processors in the UK, and possibly Europe, so the departments that were united under the Merlin banner were already very rich in technology skills. The skills that were brought in were mainly in the sales and marketing area. Staveley himself is an ex-Unilever man.

The process is not yet complete. "We are still making sure we do

"We have a strict rule now that we only announce something when it's ready"

not think like civil servants," said Staveley.

Advertising Merlin is one part of the plan. "We wanted to establish our presence in a long term and strategic way. The advertising campaign has also generated a lot of enquiries," said Staveley.

And of course, Merlin took on new products. It started off with three versions of ICL systems with the Merlin badge: the M3300 communicating word processor, based on the ICL 2200 (made by Logica); the M2226 small business computer based on the ICL personal computer (originally made by Rair) and the M1100 VDU with autodialler.

Two main offices with showrooms and customer and staff training facilities were set up in Ealing, West London, and Leeds with a further one planned for Birmingham next March.

Merlin also has a series of smaller offices based in existing BT buildings, providing sales and service anywhere in the UK.

A sales force of 90 was recruited to sell the office automation products. The two main centres have shopfronts and Staveley said they do attract customers who come in off the street. They also give special presentations of Merlin products.

Hotlines have been set up connected to the two centres which deal with any user problem, and Merlin offers three types of service agreement. The maintenance people came out of the existing fund of skills.

On the software front, Merlin also has its own expertise, plus experience of working with software houses. It has developed user friendly program, Merlin Master, to give users a gentle introduction to the other programs that run on its micros.

Merlin is selling two other systems. One is the community health advanced information network (Chain), a message handling system, which runs on Acorn hardware. The uses of Chain include sending patient referrals and ordering hospital supplies. It also offers access to a large database containing information on things like use of drugs.

The other is Modulas, a micro-based office automation system for travel agents. Merlin has signed a contract worth £5 million over two years with Future Technology Systems which makes the hardware, and also a contract worth £2 million with Tourism Technology which made the software.

Modulas will be marketed, maintained and installed through the national sales and service organisation of Merlin.

Modulas was launched at the Association of British Travel Agents (ABTA) convention in Palma, Majorca in November. This will probably best be remembered for the fact that many travel agents turned up at their hotels to find they were doubled-booked.

Merlin will be looking for other systems like Chain and Modulas. Staveley said it would be shopping around with its connections. The aim is to go for vertical markets and applications which small general businesses can use.

But no details are available on future offerings. "BT suffered from the disease in the old days of saying how good it would be in three years' time. Now we have a strict rule that we only announce something when it's ready," said Staveley.

He did reveal that Merlin is heading for an office automation package and it will definitely go into networks. "Local area networks are a doddle. The interesting thing will be to use existing phone system sockets for wide area networks," said Staveley.

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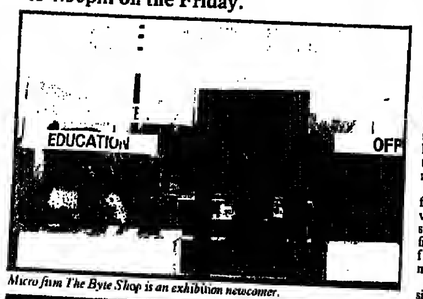
WHICH COMPUTER? SHOW PREVIEW

John Kavanagh looks at the line-up for the Which Computer? Show, to be held at the National Exhibition Centre in Birmingham from January 17-20. It is open from 10am to 5pm on the first three days, and from 10am to 4.30pm on the Friday.

Big names muscle in on the market



Micro fum The Byte Shop is an exhibition newcomer.

MICROCOMPUTERS again dominate next week's Which Computer? Show. But this year there is a subtle difference in the exhibitor line-up, for there are clear signs of the big computer manufacturers muscling in on the market.

Jo come NCR and Burroughs for the first time to show they are very much microcomputer suppliers. The big Japanese manufacturer Fujitsu is there for the first time and olso pushing microcomputers.

These companies line up alongside Which Computer? Show regulars like IBM, Digital Equipment and ACT – all featuring personal computers strongly this year.

And Fujitsu is likely to be one of the most significant show newcomers. The giant Japanese firm has shown its ambitions in the UK market by choosing o stand next to IBM to launch its microcomputer range. The company is building over 40,000 machines a month and is looking for 50 UK deslers to sell a good proportion of them here.

Fujitsu's FM7 is an eight-bit colour graphics computer running the CP/M operating system. Prices for a 64K system with a floppy disc start at £800.

The 16-bit FM16S is based on the Intel 8086 processor and runs CP/M-86 and MS-DOS. It also has a Zilog Z80A processor to run CP/M and a Motorola 6809 to provide colour graphics. It can have up to a megabyte of memory with 256K chips. The top model can support 32 users. A system with three workstations and a 20-megabyte disc costs £6,000.

Burroughs is not launching new equipment, but announcing what it calls computer business centres. It will open seven centres in the UK this year to handle microcomputer and minicomputer sales and to train and support small users.

NCR rounds off its first year in the microcomputer business by coming into the show for the first time with its eight- and 16-bit Decision Mate V.

The company says it was surprised by demand for the product. Sales exceeded targets by so much that prices were cut by 25% after a few months because of the discounts NCR was getting on component purchases. And 300 jobs were created at NCR's Augsburg factory in West Germany.

Also on show is the Tower 1632 microcomputer, which runs the Unix operating system and supports 16 users.

Among big Which Computer? Show regulars Digital Equipment gives the first public demonstration of its Rainbow 100+, launched last month. Like the earlier Rainbow 100, the machine features both eight- and 16-bit processors. New features include 256K memory chips, plus a 10-megabyte Winchester disc and two floppy discs built in.

CP/M and MS-DOS reside on the Winchester disc and the user can switch from one to the other at the touch of a key. Prices start at £4,200, including operating systems.

DEC also features its Professional 350 microcomputer with a new version of the operating system, plus its All-in-1 office automation software.

The biggest stand is taken by UK manufacturer ACT, showing its Apricot and Sirius microcomputers and the new Micromail electronic mail service.

The biggest company, IBM, features not only its Personal Computer but also the System 36, System 38, Displaywriter and 4300 mainframe.

Several smaller companies are in the show for the first time to launch 16-bit machines. They include Five Technology, Vector Graphic, Bromcom and Mentor.

Bromcom's Superstar 16 consists of a central processor and eight-bit terminal controllers in the same unit. Users can thus run eight-bit operating systems and programs while the 16-bit processor handles shared resources, ing in with equipment designed fail-safe systems or, like Perki Elmer, with systems based o existing processors tied together.

Also on Perkin-Elmer's stand the new 3205, thought to be the cheapest 32-bit minicomputer available and the first to be contained on a single board. The ou off price is £19,460.

Perkin-Elmer is also at the show under the ABS Computers label. The UK manufacturer has become in effect a Perkin-Elmer systems house, selling the US firm's 32-bit range as the Chorse family. The name is pronounced C-horse and reflects the importance of the C programming language.

The processors were taken on to give a growth path to users of ABS' own MX range. The company has adapted its Simple English-like programming language to run on the Chorse machines. ABS sees its agreement giving new business user markets to Perkin-Elmer, which is better known in the scientific and engineering areas.

ABS is also showing its Orb microcomputer, unusual because it is shaped like a ball. It is based on the new Intel iAPX-186 processor.

A new UK firm, Empirical Research (Europe) is coming into the

■ Continued on page 17

ABS will be showing the ball-shaped Orb microcomputer.

WHICH COMPUTER? SHOW PREVIEW

Tour of the show stands

■ From page 16

show to launch a 32-bit range based on the Motorola 68000 processor. The Ergo range runs from 128K to 16 megabytes of memory and from two floppy discs to 80-megabyte Winchesters. Six operating systems are available: Unix, CP/M-68K, MS-DOS, BOS, Idris and Mirage.

The company is demonstrating BOS, concurrent Unix and MS-DOS, computer-aided desigo and financial applications on its stand.

Applicstions software ranging from the general to the very specific is provided by several exhibitors. Among the more esoteric packages is Boxcost from Sinclair Consultants, an estimating system for box msnufacturers. It runs under CP/M.

Meanwhile Memory Computer has its stsnd split into a beach, a supermarket, a courtroom and a typing pool to show microcomputer packages for travel agents, shops, solicitors and word processing.

Production control pcksages are launched by Aset and Tcoms Computers. Compact Software International is introducing colour display optioos on its businesa packages. And accounting software specialist Tabs is moving into the retail systems market with its own software and Omron cash registers. Facilities include price look-up, stock control, accounting and sales analysis.

Computer-aided design packsges are offered by Interactive Graphics and Zenith Dato Systems, both ss microcomputer systems.

Grafox is launcbing a packsge which produces colour graphics from most popular spreadsheet modelling systems. It runs under CP/M and MS-DOS. It could be useful for visitors to Sapphire Systems' stand, where a new £49 business modelling package is on show. The Ssphire package is the "official" investment appraisal system for government departments.

On the Mitel stand the Canadisn communicstions maoufacturer is showing its new Kontact workstation, which combines local processing with voice and data communications over the same telephoae wire.

Local facilities include word processing, a diary and speadsheet modelling. Communications features include a telephone directory witb shoct-code dialling, plus electronic mail.

The Norwegian computer industry has taken the unusual step of booking a joint stand to promote its activities to a UK audience. Companies on show include terminal and tape drive specialist Tandberg Data, systems house Norsoft, making its first appearance in the UK, aod office furniture manufacturer Hov Global.

Computer manufacturer Norsk Data is launching a private viewdata system for all its machines. It is compatible with the UK's Prestel system but has extra facilities for data entry and for broadcasting information.

Blsewhere visitors can find exhibitors ranging from printer manufacturers Newbury Data Recording, Brother aod Epson to communications leaders aiich as Case.

With such a variety of exhibitors two stands should be particularly busy: Microword Services is introducing some training courses, while Computer Field Maintenance is promoting its third-party maintenance services.

The National Exhibition Centre ottracts business and commercial users to see the latest computers, word processors and software at the Which Computer? show.

Rule No 1 – leave your cheque book behind

Phil Manchester takes a look at computer exhibitions and has some practical advice for the would-be user

YOU may be going tu the Which Computer? sbow because yuu have the idea thot computers will somehow solve your problems.

Just write uut n cheque for a couple of thuusand, put the lsrge box in tlie boot of your car and off you go – into the world of high technology with a gleam in your eye.

The first problem you may hove already noticed is that it Is not that easy.

Walking around the show you will find maybe 100 or more potential computer sellers – many of whom are selling what appears to be the same piece of kit.

You may also have noticed that there are 100 other stands where they do not sell computers ot all, but something called software packages.

The combination of "window dressing" and carnival banners urges you to sample the delights of everything from "program generators based on artificial intelligence" to "multi-user relational databases".

All you waot is something that will record your invoices or at most keep a track of what money you have spent and what you can expect to receive in the next month.

As someone whose only contact with computers bas been playing with your children's video games machine, you are possibly wondering why on earth you ever thought that computers could be of any use.

You feel like the man in the British Telecom advert who has been overwbelmed with jargon.

But before you rush off to the nearest telephone to dial Freephone Merlin, take a deep breath, sit down and try and remember why you came to the show in the first place.

The computer industry has a name for your complaint – you are what is knowo as a first-time user.

Computer industry people odore you – with your innocent, unsplit attitude to their wares. It makes life very easy for them because they can base their selling pitch oo your lack of koowledge – just like the Merlin ad.

Wbat you need to be going on with is a guiding hand to help you through the worst of the storm, and by the time you have finished reading this you can go out into the rest of the show with the confidence of nne who knows.

First of all, put your cheque book away. It is a bad idea to buy onything in the heat of a show. There is a sort of consumer fever that runs through shows of this kind snd you may easily succumb to it.

The traders will be more than happy to follow up a short conversation on a stsnd with a proper sales visit to your offices, or provide you with a locsl dealer where you can talk things over in a more genteel atmosphere.

Secondly, grab ss much literature on whst you think you might be interested in – you can alwsys throw it away when you get home. Scanning through brochures in the comfort of an armchair can reveal a lot about products which may hsve the potential to meet your needs.

And thirdly, spend a lot of time talkiog to as many people as you can.

Perhaps the most important thing to remember is that buying a computer system is no different from any other purchase. Use the same criteria that you would use to buy a car or a washing machine, because you only get what you pay for.

In the old days of computers the attention usually focussed on the hardware (or the kit as we now call it). Up to the end of the 1960s, the software and services were all thrown lo "free" for the price of the kit. They were not free at all, of course. But in the days of "bundled" systems as they were called, the cost of the hardware was so great that the cost of software snd services wss trivial in comparison.

What is now happening is the complete reverse. Now you tend to buy the softwsre first and worry about what machine it is going to run on sfterwsrds.

Although it is history, It Is worth dwelling on the reasons for this as it will help you understsnd the way the computer industry works.

When computer hardware waa expensive, the basic software and the maintenance of the machine were all included in the price. In 1969 IBM decided it would charge a computer to talk to a printer called a Centronics ioterface. This is a common method of connecting computers and printers and has therefore become a standard.

For those wondering whst is an operating system, it is a program that sits between the computer hordware and handles all of the complex stuff for you. It will organise data into files on discs, and remember where they are. It knows what messages to send to the printer to get it to work properly, and generally makes life easier.

You need to koow abuut them for the same reason oa you need to know whether the program you are thinking of buying will work on the computer you like the look of.

A program written to work with the CP/M operating system will not work with MS/DOS or any other operating systems, and vice-versa.

So, having selected the software package you think will do your job, you must make sure it will work with the operating system you need.

This is not always the case. Some programs do not need an operating system to work successfully – they have all the complicated bits built in. The disadvantage of buying a program like this is if you want to expand your system at a later date.

This raises an important question that has never been answered satisfactorily by the computer industry – that of "migration".

Let's say you decide to buy a fairly standard system with 64K of memory, a couple of disc drives and a printer to do your word processing and accounts. If you had also invested in an operating system, expanding the system to include say a bit of financial planning would be reasonably straightforward – you just buy your new program, pop it into the disc drive and off you go.

If you had bought programs that did not use an operating system, it would limit your choice of programs. And it would mean that the code to handle all of those complicated bits that we don't want to think too much about would be duplicated in every program you bought.

The operating system concentrates those all in one place and saves you buying them over ond over again.

If, on the other hand, you are thinking in terms of getting s computer to do just one thing with no possibility of ever doing anything else, the operating system is perhaps best forgotten about.

If in dubt, pump the sales representative for answers – it is his joh to have them.

One final piece of advice, remember that computers and computer systems are only tools. Certsinly they are very sophisticated, multi-purpose tonls, but like any uther tool they are only as good as the person using them. Do not be fooled into thinking that they will make your business any more profitable or your job any easier.

They might enable you to do more of the same in less time and they may well make the job more fun.

And if you get bored, you can always call up the Space Invaders program and work off your frustrations by destroying a few aliens.

Computers and computer systems are only tools. Certainly they are very sophisticated, multi-purpose tools, but like any other tool they are only as good as the person using them. Do not be fooled into thinking that they will make your business any more profitable or your job any easier

Take two days to determine your IT strategy

Register Today for The Information Technology Planning Conference 1984 at the Royal Lancaster Hotel, London, 7 and 8 February 1984.

PLAN IT84 is the first-ever conference structured to aid directors and managers responsible for information systems to determine the effective planning and implementation of information technology.

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The conference will be structured as the programme detailed overleaf. Complete documentation will be provided to all attendees.

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By being there, you will be party to the very latest, and most high-level, informed opinions in Europe. You will be able to assess and decide upon a plan of action to meet your company's future requirements directly as a result of your attendance at PLAN IT84.

A forum that will produce practical results and benefits

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Plan IT84

The Information Technology Planning Conference 1984
Royal Lancaster Hotel, London
7 and 8 February 1984

Conference Programme

7 February 1984

Day 1 Morning

Chairman's introduction
David Fairbairn, Director, NCC

Most significant trends
Mike Reidy, Senior Consultant, IDC Europa

IDC Europa, the international market research company, and Computer Weekly are combining on regular surveys of the UK data processing industry. Mike Reidy will draw on data from those surveys, as well as IDC's other market research efforts, to map the current and future course of information systems.

Systems Architecture – the options
Will Zachmann, Vice President, Corporate Research, IDC

Emerging as a key issue in systems aquisition is the processor or processors. With options available for single, tandem or multiple processors, what are the selection criteria? Allied to this are the capabilities of the operation systems for multiple processors and the separation of data handling procedures (database, dataflow, file servers).

Afternoon

Chairman's introduction
David Craver, Editor, Computer Weekly

User software – the options
Reg Boot, Group Director, Training and Software, NCC, Fons Kuijpers, Consultant, IDC

While the decision between package or custom software remains, there are new factors which will influence this. There is a choice of software development tools available with program generators and new design methodologies. What impact if any, will expert systems have in the area?

Human Interface – the options
David Hebditch, Consultant

User friendliness can mean many things, from simplicity of system usage to the ergonomic effectiveness of the equipment. What effect will multi-function work stations and graphics capabilities have on human interface? Will voice input begin to replace the keyboard?

8 February 1984

Day 2 Morning

Chairman's introduction
Peter Rowell, President, IDC

Human reaource – the facts
Dr John A.G. Thomas, Publishing Director, Computer Weekly.
Deputy Managing Director, Electrical-Electronic Press.
John Griffith, Group Director, NCC

The most important resource. What are the facts about salaries and current trends? What are average staff turnover levels? How do you find, train and then keep your good staff? This session will also cover the role of the IT supremo and the concept of the information centre.

Communications – the options – 1
Martin Healey, Professor of Microprocessor Engineering. University College, Cardiff

This session will consider the options available for users of local area networks (LAN) giving emphasis to the topologies (Star, Ring, Ethernet) and their application.

Afternoon

Chairman's introduction
David Fairbairn, Director, NCC

Communications – the options – 2
Professor Martin Healey, Dr. Peter Scott, Manager Communications Division, NCC

When the network involves remote sites with long distance telephone lines interconnecting them, this is a wide area network (WAN) this session examines the factors influencing WAN systems, the manufactures, the location of people, the modern PABX, teletex and viewdata.

Communications – the standards issue
Keith Bartlett, DOT!

International standardisation organisations are making real progress towards supplier-independent standards which are of benefit to users. For IT communications the most important of these standards are for open systems interconnection (OSI) the Dept. of Trade and Industry is supporting the development and introduction of these standards through IT's 'intercept' programme.

Panel Discussion

Application of AI – the options
Brian Oakley, Director, Alvey Programme

Artificial intelligence and expert systems are now all the rage. There are, however, very few working systems, and many question whether they have a useful application in the commercial data processing environment. Brian Oakley, who is leading the UK's research and exploitation of the next generation of computer systems, deacribes what is availsble and what is promised.

Chairman's Summary

Full conference details will be sent to all delegates upon registration, complete with accommodation and travel arrangements. The conference fee of £365 + £54.75 VAT includes morning coffee, full lunch and afternoon tea on both days, as well as documentation.

The Information Technology Planning Conference 1984 – PLAN IT84 – is backed by and utilises the resources of Computer Weekly, the National Computing Centre and IDC Europa.

PLAN IT84 Conference,
Seminars Administration,
National Computing Centre Ltd,
Oxford Road, Manchester M1

ADVANCE REGISTRATION

To: PLAN IT84, Seminars Administration, National Computing Centre Ltd., Freepost, Manchester M1 8DX

Please accept ____ registrations for the Information Technology Planning Conference 1984 – PLAN IT84 – at a fee of £365 + £54.75 VAT, total £419.75 per delegate.

☐ Please invoice my company
☐ A cheque payable to the National Computing Centre Ltd is enclosed

Signed _____
Name _____
Position _____
Company _____
Address _____
_____
Telephone _____

☐ Please send full conference details.

Additional Delegates

Name _____
Position _____
Name _____
Position _____
Name _____
Position _____

CW12

CWEE 2

LETTERS

Electronic mail is a two-horse race

I HAVE just caught up with your issue of December 1 and in particular two valuable items. The first is your Platform extract from the NEDO report on information technology and the second is David Ferris' article on electronic mail.

As a publisher, I am naturally encouraged by the auguries both items give for broad progress in the future towards much greater hardware compatibility as a foundation for true electronic mail.

However, I am sad to note that both items assume more or less explicitly that the intending user of electronic mail is a large organisation with dispersed branches. Accordingly, they assume that the two ends of the electronic mail box will have been able to set up a cosy prior arrangement about communicating with each other.

This is a common characteristic of almost all commentary on information technology.

However, from the viewpoint of a publisher, what I am concerned with is communicating with my public. In our particular instance this is quite a defined public in specific business sectors. Nevertheless, it is a much broader range of potential mail box users than the branches of any large organisation, no matter how large or dispersed.

From our particular perspective therefore, the depressing fact about electronic mail is that, to have any universality at all, it has to come down to the only two established and truly universal networks available – the telephone public service network and telex.

Since the type of information in which we are dealing concerns ephemeral but at the same time precise numeric information (notably commodity prices), written communication in the recipient's hands is essential.

In the past five years, we have been through an infatuation with facsimile and have dipped a rightly sceptical toe in the water of Prestel. But the commercial development of facsimile has totally failed to realise the promise of a broadsheet page of the Asahi Shimbun which I first saw demonstrated in Tokyo all of a dozen years ago, taking only four or five minutes in transmission.

Perhaps for this reason, or perhaps for reasons of user perceptions of electronic mail solely as a bilateral instrument, facsimile has never been anywhere near supplanting telex. With the news that, selectively, speeds available on modern needle printing telex machines are to be doubled later this year, it is pretty clear that now it never will.

So this still leaves us with electronic mail, in the real sense of the word, and as a next generation replacement for telex, some way into the future, which is infuriating. But as the NEDO report rightly indicates, the pressure has got to come from the users by the simple process of choosing one system (which may not necessarily be the best one) and adopting it in such volume that it becomes the standard.

In this respect, the achievements of the printing industry in standardising the media to drive typesetting equipment – and in a parallel sense the achievement of the travel trade in maximising the utility of Prestel – are the sort of examples we should be looking at.

Why should Prestel have been made a viable tool by the travel trade when the opportunity to make similar use of it by other business sectors has been completely missed? I believe the answer has simply been one of emerging consensus among leading providers of the necessary information (airline and rail timetables, etc.) and the use of that lead by potentially interactive information takers who operate at arm's length.

So how do we reproduce a system that "just grows" at the level of the international business community?

I believe we just have to start. Certainly, my researches would endorse David Ferris' conclusion that Dialcom plus Telecom Gold is an excellent foundation already established in the UK and the US; but without the pressure of established user potential, the spread of this network to true worldwide connection will probably take forever.

Blind nationalism in for example, France or Japan will undoubtedly rear its head at some stage if the process of completing the internationalisation of this net is left to the network operators.

It is up to the users to vote so strongly by their use of an available network of suitable potential (ie maximum hardware compatibility) that a bandwagon of influence is set rolling.

Then neither dilatory network operators nor chauvinist governments can prevent its worldwide adoption.

T. J. TARRING
Metal Bulletin
Worcester Park
Surrey.

Cincom's Mantis is not market leader

A NUMBER of readers have pointed out an error in my recent article assessing application generator technology.

Based on information provided to me by Cincom, I asserted that: "At the mainframe end, Cincom is the clear market leader – it sold about 1,000 units over the last two years, amounting to over $80 million in revenues."

Having investigated, I found that Cincom's Mantis is, in fact, far from being the market leader, and its shipment claims seem doubtful. I then contacted Focus Research, a leading independent source of marketing information on the software industry, who were able to provide the information set out in the table below.

The US is of course [illegible] portion of the world's market. It probably accounts for 45% of worldwide application generator revenues, and is a far larger than any other [illegible]. It's clear that the independents are doing very well, with IBM's market share. Judged by growth of installed base [illegible] and UFO are probably worldwide market leaders; [illegible] certainly is not.

DAVID [illegible]
Ferrin Corporation
San Francisco.

US shipments application generators

Product name	Market share: installed base	Projected market share installed base
DMS	49.9	37.9
Focus	11.3	15.1
UFO	12.6	14.4
ADF	9.2	6.6
Mantis	5.4	7.4
Romis	0.6	7.1
ADS/online	2.8	5.8
MIS/OL		
Gener/OL	2.2	5.1

Table 1

Bad advertisements get just desserts

I HAVE read with some amazement the article from Andrew Carter, director and general manager of Specialist Computer Recruitment, that appeared in your edition of December 17.

Whilst I imagine quite a number of readers were somewhat amused by the wording of the advertisement that he was criticising, I am somewhat surprised that you should publish a letter of this kind.

One can look through advertisements in any media and offer criticism but to publicly criticise one's competitors in this way is only attempting to gain publicity of one's own company.

My personal belief is that the bad advertisements receive a just punishment in that they are often ignored by potential applicants. I object strongly to the suggestion that, and I quote: "Recruitment advertising standards have plunged to an all-time low."

Who is Mr Carter referring to? Perhaps he will be good enough to explain how he believes that advertising standards can be improved. Does he suggest that SCR offer its services as a monitor?

JOHN GOLDSMITH
A&A Consultants
London W1.

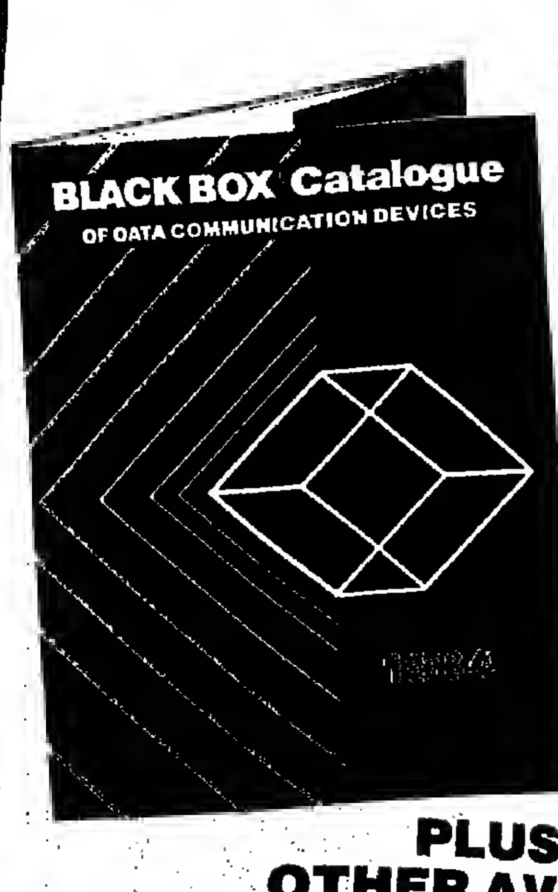
Cartoon protest

WHY does *Computer Weekly*, a respected computer paper, still find it necessary to include cartoons depicting women in this way (page 64, November 10)? Surely you can muster more integrity than this.

ANGIE DONOGHUE
Information Officer
Chelsea College
Educational Computing Section
University of London.

[S]chools give a new [...] to education

[...]e still clumsy, says Keith Holder



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CABLES
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DIARY

JANUARY 16

Use of Computers for Automatic Test Equipment. BCS Glasgow branch. Committee Room, Staff Club, University of Strathclyde, Glasgow. 7pm. Speaker from Marconi Space and Defence Systems.

Visit to British Rail in York. BCS Humberside branch.

JANUARY 16-18

IBM VSE JCL and Practical Skills: course run by Protocol Operations at Royal Scot Hotel, London. Cost: £340 plus VAT. Details: Protocol, Reading 598645.

JANUARY 16-19

IBM Cobol Review is an Altergo Education course, in London, price £450, for inexperienced Cobol programmers. Details: Altergo, 01-836 9303.

JANUARY 16-20

Systems Principles for Programmers is a Compower Training School, Cannock, Staffs, course, cost £330. Details: Course Administration, Cannock 2511.

JANUARY 17

Workshop meeting of BCS Database Northern Group, Strathclyde University, Glasgow. Details: Willie Morrison, (041) 554 6186.

Computers in farming: BCS meeting, Dundee College of Technology. Details: BCS, 01-637 0471.

Local area networks – Racal Milgo's Planet: talk by Robert Adams of Racal Milgo at Royal Hotel, Winchester. Details: BCS, 01-637 0471.

The threat posed by bit copiers: talk by Jonathan Baldachin, of Little Genius, to Technology of Software Protection Group, in London. Details: 01-637 0471.

JANUARY 17-19

VS APL Fundamentals is a Cocking & Drury course, price £300, held in London W1. Alternative dates, February 21-23. Details: Alice Ingle, 01-493 6172.

JANUARY 18

Small computer systems: joint meeting of BCS Auditing by Computer Specialist Group and Institute of Internal Auditors, Royal Lancaster Hotel, London. Details: Afshin Taraz, 01-836 1200.

British Telecom's plans for an integrated services digital network: talk by Chris Woods of BT, London. Details: BCS, 01-637 0471.

Competing with British Telecom: talk by Stuart Bailey, of Mercury Communications, London. Details: BCS, 01-637 0471.

Database on micros: talk by Bob Huckle, Caxton Software; Skye Quinn, Ashton Tate; and David Turley, Tamsys – to BCS London Database Group, University College London. Details: Dr R. Maddison, (0908) 653688.

Data protection legislation: talk by K. Wingfield, MBC, Doncaster, at Newcastle Polytechnic. Details: BCS, 01-637 0471.

The Fifth Generation. BCS Belfast branch. Forum Hotel, Belfast. 8pm. R. Muller, SPL International.

Computer Security. BCS Bristol branch. St Vincent Rocks Hotel, Clifton, Bristol. 7.15. [illegible]

JANUARY 19

Military command and control systems: talk by Major Allan [illegible], Logsys Advanced Systems, Guildford. Details: BCS, 01-637 0471.

IT strategy and the local community: talk by David Firnberg, BCS president, at Oxford Polytechnic. Details: BCS, 01-637 0471.

The Pick Operating System: talk by Stephen Clegg, Real Time Business Systems, at Aubrey Park Hotel, Hemel Hempstead. Details: BCS, 01-637 0471.

CAD/CAM: talk by Ian [illegible] A. Rhoades and P. Moody, Wolverhampton Polytechnic. Details: BCS, 01-637 0471.

What are expert systems? talk by Dr A. Sloman, University of Sussex. Details: BCS, 01-637 0471.

JANUARY 20

The paperless office – ways and means of making information technology productive in modern offices: seminar by Oyez Scientific and Technical Services, London. Details: Helen Raquet, [illegible] 4080.

UK APL User Group annual general meeting, Imperial College of Science and Technology, London. Plus APL – the natural language for graphics. Details: [illegible] Bowman, 01-248 1202.

JANUARY 23

Informal meeting called Databases on micros? at Castle Hotel, Norwich. Details: BCS, 01-637 0471.

CONFERENCES

■ CONTRACTING to the US is a seminar sponsored by the Technical Marketing Society of America, to be held in February from 2-3 in Stockholm, 6-7 in London, and 9-10 in Frankfurt. It will cover rules for non-US contractors; US contract terms and conditions; negotiation; tariffs, taxation and licensing; and contract performance and administration. Speakers are Allen B. Green, partner in US law firm McKenna, Conner and Cuneo, and Tommy H. Jackson, president of Marketing Consultants International in Washington. Fee is £345 per delegate, with reductions for members, special delegates and teams of three or more. Details: TMSA CTUS Seminar, c/o State of the Art Ltd, Victoria House, Suite M9, Southampton Row, London WC1B 4EF.

■ THE second International Federation for Information Processing international conference on computer security is to be held in Toronto, Canada, from September 10-12. Deadline for papers is February 29. Contributions on topics such as communications, disaster recovery, security software, cryptographic protection and identification/authentication are invited. The conference is organised by the Canadian Information Processing Society. Further details: IFIP-SEC'84, Suite 1806, 2 Carlton Street, Toronto, Ontario, Canada M5B 1J3. Tel: 416-791-2525.

PEOPLE

■ Micro Focus has appointed Joy Young (above) technical author. Initially she is working on a major revision of Animator, and an abstract machine annual for the compiler. Young has a BA in French and German from Southampton University. She is checking the German version of Level II Cobol Language Reference Manual, which is currently being translated. She trained as a technical author at Digital Equipment in Reading, where she was involved in updating packet switching systems documentation.

■ Dubilier has appointed Peter D. Cowell deputy chairman in addition to his present duties as group managing director. Christopher R. Bean, financial director, also becomes deputy group managing director.

■ Data Recording Heads has appointed Christopher Bonny as technical director. He has been with the Data Recording group since 1968 and in 1980 was appointed managing director of Data Heads, Singapore.

■ Several new appointments have been announced by Cameron Communications, UK supplier of professional visual communications equipment. David Leake has been appointed sales executive for industrial video products. He joins Cameron from the video products division of 3M. Terry Barnes (above) has been appointed sales executive for video and data projection products. He has previously worked for Rediffusion, Business Video and REW Video. Appointed sales executive for video and data projection products is Graham Burgess. He joins from Rank Video.

■ Nasrin Damani has been appointed programmer at Micro Focus, working on various contracts for the US and Logica. She was previously an analyst programmer at Data Logic, where she was involved in C Unix for an internal project on office automation. While there she did some consultancy work for Rank Xerox working on a Honeywell machine with Cobol, programming technical support work on stock control.

■ Kathleen Moorhead joins MSA as systems consultant. She has worked in the US on contracts such as Mobil Oil, T & T and IPG as a consultant for Computer Systems Development Inc.

■ The board of directors at Intelligence (UK) has been joined by Richard Harris, following his promotion to deputy managing director. Harris joined Intelligence in June 1983 with the brief to extend its range of microcomputer software products. He subsequently assumed full responsibility for all aspects of product development, sales and marketing within the software division.

■ Michelle McClurg (above) has joined UCC Software Products as UK technical manager. She is responsible for providing technical support to back up sales and pre-implementation assistance, training new clients, and for an ongoing programme of continuing education. Previously, McClurg worked for UCC in a consultative capacity in Dallas, Texas.

■ Casio Electronics' recruitment of Tony Manton in the new specialist post of product manager for computers is a sign of how seriously the calculator manufacturer intends to assault the computer market in 1984. Manton is already working with the UK's top software suppliers, which are eager to adapt many existing packages and to prepare fresh programs for users to run on Casio machines.

■ Hazel Nott has joined Rediffusion Computers as customer relations officer in the telepuler marketing group based in Crawley. She has spent two years with Waterfall, a business bureau in Haywards Heath, as a director.

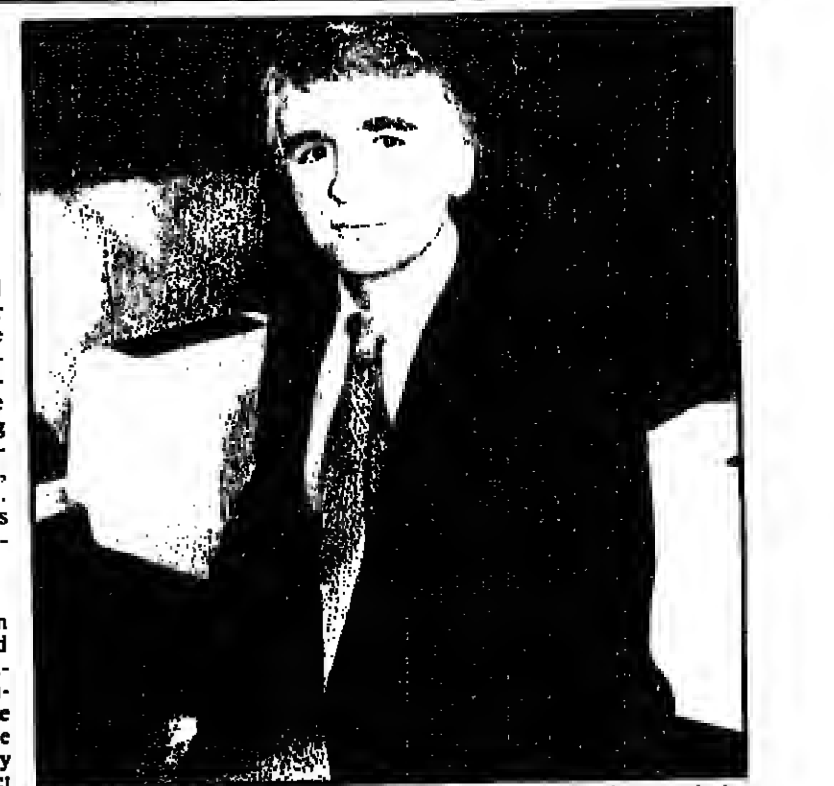
■ Howard Pnskitt has joined Harris Systems as a sales executive, responsible for selling the company's terminal products. Before joining Harris, Pnskitt was area sales manager for the North of England, with STC Business Systems.

■ Alan Golob (above) has been appointed northern business development manager for Dun & Bradstreet, the business information company. Based in Manchester, Golob will be responsible for developing and introducing major new computerised information systems to northern-based companies. He has been with Dun & Bradstreet for 9½ years and has managerial experience in credit reporting and commercial collections.

■ Raymond J. Drake has been appointed group financial controller of the VLI Group, the staff consultancy company. He will additionally be appointed company secretary. Drake has joined VLI from Ellerman Lines, where he was financial controller of the group's managed shipping interests.

■ Nick Hollis has been appointed managing director of Computer Peripherals (Systems) (CPS), the UK distributor for the Telex Corporation's range of IBM 3270 compatible terminals. Eric Lipscombe, former managing director, becomes executive chairman of Computer Peripherals Ltd, the holding company for CPS. Hollis joins CPS after 18 years with BASF, where he was appointed divisional manager in 1979.

■ Protek, the specialist dealer in Hewlett-Packard equipment and exclusive enhancements, has increased its technical software consultancy division with the recruitment of two new software designers. Peter Jones is currently engaged on a noise analysis project on behalf of a leading motor manufacturer and the development of forms processing software for general application. Mathew Mitchison has just completed his Masters degree at Edinburgh in microelectronics design.



Peter Dixon has joined Peachtree Software International as marketing manager with two prime objectives. Firstly, he aims to build up Peachtree's established brand name in the UK and European business software markets. Secondly, he wants to establish Peachtree in the home and educational software market.

Dixon has been at CBS Records as general manager, marketing, since October 1980.

Alan Best (right) and Arthur Trick (left) have been appointed joint directors to manage Zynar, one of the leading European personal computer networking companies.

Alan Best has been working for Zynar for 2½ years as financial controller and is now director of finance and operations. He is a qualified accountant.

Arthur Trick worked for Zynar for a year as European business manager and is now director of sales and marketing. He will be co-ordinating the company's marketing and sales in the UK and Europe, both direct and via dealers and distributors. He has a degree in mechanical engineering.

FOR RENT or SALE

MINI COMPUTERS

DISC DRIVES

DESKTOP COMPUTERS

COMPATIBLE PERIPHERALS

MICRO/PERSONAL COMPUTERS

PRINTERS

Digital

LA12 — Models A,B C & D Portable DECwriters
LA34RA — DECwriter IV RO Printer
LA34AA — DECwriter IV RO Printer with Forms Handling Features
LA100 — Digital Letter Printer 100. Operates 240, 80, 30 cps modes (SR & RO - 5 models to choose from
LA50RA — 100 cps Personal Printer
LA120AA — DECwriter III KSR
LA120RA — DECwriter III RO

Texas Instruments

LINE PRINTERS

TERMINALS

COMMUNICATIONS

Racal-Milgo Modems

MPS 3025 — 300 Baud Modem
MPS 1222 — 1200 Baud Modem
MPS 48 — 4800 Baud Modem
MPS 96 — 9600 Baud Modem
MPS 14.4K — 14.4K Baud Modem
Omnimux 40 — 918 Channel MUX

Transdata

307 — 300 Baud Acoustic coupler
307a — 300 Baud Acoustic Coupler

Teledek TI

Microview CI

MICRO PROCESSOR DEVELOPMENT SYSTEMS

SOFTWARE

FINANCIAL MODELLING AND ELECTRONIC WORKSHEET

WORD PROCESSING & OFFICE AUTOMATION

LANGUAGES

F&E TRANSFER

INTEGRATED ACCOUNTS

MISCELLANEOUS

London
Hamilton House, North Circular Road, London, NW10 7UB.
Tel: 01-961 6777 Telex: 263121

Birmingham
Crawford House, 84 Caroline Street, Birmingham, B3 1UP
Tel: 021-236 3561

Manchester
Grove House, Skerton Road, Old Trafford, Manchester, M16 0WL
Tel: 061-848 8338

Aberdeen
Unit 4, Howemoss Drive, Kirkhill Industrial Estate, Dyce, Aberdeen.
Tel: 0224-770 818

How best to serve the customer

Working for Customers. David Bernstein. CBI. £2.50.

I'M one of those people who start the page again if there's the slightest doubt in my mind that I haven't understood every syllable. Even so, I was able to read *Working For Customers* from beginning to end while completing the train journey from Birmingham to London.

This is one of those "I know you know it, but do you do it?" books which says nothing revolutionary yet includes much of that rare commodity, common sense, which all good management oriented books must contain.

Indeed, I would go so far to say it is to a great extent a treatise on customer awareness that one might expect to find within any comprehensive book on selling or marketing.

The first half of the book is laborious and over-stated. I began to wonder how many different ways there were to say that the customer is the most important business consideration, and that we need the customer more than he needs us.

By the time I reached the end of chapter eight, I was beginning to feel a little patronised and demotivated, but suddenly chapter nine brought the book to life with some sensible comments about the necessity to involve employees in the total business process as opposed to merely communicating with them.

"What I want to know is – how does she operate it in this position?"

Some useful things are also said about the need for customer perception at all levels of company operation.

There then follows some good stuff on the pursuit of product excellence.

Alan Williams

A handbook for common Cobbler

A Cobol Handbook. Christopher Russell. Addison-Wesley of London. £5.95.

Methodical Programming in Cobol. Ray Welland. Pitman Books of London. £5.95.

IT might seem strange that anyone should want to write a book about Cobol today. New features such as the Validate verb and screen handling are just coming into the language, so would it not be better to wait until these have become generally accepted?

Apparently not. This week we have two new books about Cobol, one a handbook for the common Cobbler, the other a course with worked examples and exercises on structured programming in Cobol.

Methodical Programming in Cobol by Ray Welland, lecturer in computer science at University of Strathclyde in Scotland, is clear to follow, and well illustrated with worked examples and programming exercises, some of which are answered in the book with suggested solutions.

There are 26 pages of appendix summarising the language features, plus an index, which I found useful when tackling some of the more difficult exercises.

The book begins gen[illegible] history of Cobol. Then [illegible] chapter on the design [illegible] used to construct progra[illegible] ting the reader to design [illegible] before any code has been [illegible] a good idea, Welland is [illegible] when he claims in the pref[illegible] the student should be able [illegible] struct quite substantial [illegible] by the end of chapter two.

Chapters 7 and 8 give us [illegible] breather from the [illegible] chapters 3 to 6, taking the [illegible] through testing and deb[illegible] followed by a case study [illegible] phone billing system.

A Cobol Handbook is a [illegible] guide to Ansi 74 Cobol, [illegible] most widely-used version [illegible] language at major installa[illegible] its credit, the book gives [illegible] examples, which help the [illegible] along.

The book might be useful [illegible] course handbook at a college [illegible] do not see it being parti[illegible] helpful to most programmers [illegible] it is not really much easier [illegible] than the average reference [illegible]

Philip Hu[illegible]

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Bell Telephone Manufacturing Company

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A Belgian company associated with ITT

Directory to 3,000 packages

Microcomputer Software Directory. Computing Publications. £40 plus £2 p&p.

WHERE can you find softporn sitting next to continuous beam analysis? Or a football pools prediction program next to a personal banking system?

The answer is in *Microcomputer Software Directory*, the latest hefty tome from the publishers of the industry bible, the *Computer Users Year Book*.

The new directory is the little brother of the *International Directory of Software* from the same publishers and follows a similar format.

Some 3,000 software packages are listed for every conceivable microcomputer and operating environment under application, machine type and by occupation. This last category is an indication of the importance of the so-called vertical market in the microcomputer business.

You don't just get a list of general accounting packages, you get accounting packages for estate agents, farmers, solicitors and so on.

Under each product description, a complete technical specifi[illegible] itemising any special [illegible] required, the amount of [illegible] needed and the all-importan[illegible] are listed. One small criticism [illegible] is that the many US-origin[illegible] products only have the [illegible] price in dollars – presumably [illegible] cause of the unstable exchange [illegible] between the dollar and sterling.

The only other criticism of [illegible] otherwise excellent reference [illegible] is the price – £40 plus postage [illegible] packing. This leads to the [illegible] anomaly that many of the p[illegible] ducts, particularly in the b[illegible] computing section, cost less than the directory itself.

The publishers see their m[illegible] market as corporate data proc[illegible] sing shops which can lose that s[illegible] of expenditure in their petty cash.

Apart from these criticisms, the *Directory* is everything one wo[illegible] expect from the people who pub[illegible] lish the *Computer Users' Yearbook* and it will doubtless join its other publications on many a da[illegible] processing department's libr[illegible] shelves.

Phil Manchester

Being kind to Pascal

UCSD Pascal: A Considerate Approach. David Price. Prentice-Hall. £11.

BOOK store shelves across the nation groan under the weight of Pascal textbooks; warehouses are stacked high with them; and still they keep popping up like weeds. No publisher's list, it seems, is complete without a scattering of Pascal books; no lecturer can rest till his course notes have been turned into a slim (or fat) volume.

One needs a pretty good excuse these days for adding to this book mountain, especially since the early pioneering efforts were mostly rather good.

Price's excuse is that he aims to teach "a considerate approach" to programming. This means that a programmer should write programs that are easy to read, and are easy to use.

UCSD Pascal, he maintains, is a suitable vehicle for considerate programming.

His aims are laudable, but what he has produced is a bog-standard textbook. There's nothing much wrong with it except for the fact that Rodnay Zaks (to name but one) has done the job already.

Price covers most of the language in a sensible order (though [illegible] would prefer to see functions [illegible] procedures before arrays), with the notable exception of units and se[illegible] ments. These are important concepts in UCSD Pascal and have influenced other languages, such as Modula. They deserve a section to themselves.

His style is a little bland for my taste, but at least he gets everything right – bar a few, inevitable, typographic errors.

The question is: why should the aspiring Pascal programmer fork out £11 for a considerate approach when he can get a selection of [illegible] considerate ones at £7 or £8?

I looked for an answer in chapter six, entitled "Are you a considerate programmer?" but found only programming platitudes such as "use descriptive identifiers".

So I turned to a later chapter on why programs fail. This was more interesting, although hardly original. Price emphasises the importance of subprograms in error isolation, but unfortunately does not provide an example – not even an anecdote – to illustrate what he means.

Richard Forsyth

Instant colour hard copy for 'personals'

A LOW-COST interactive film recorder producing high-quality 35mm slides and instant photographs of personal computer graphics will be demonstrated by Polaroid (UK) at the Which Computer Show, at the National Exhibition Centre, Birmingham next week.

Called the Polaroid Palette computer image recorder, the new system is designed for use with personal and small business computers to make presentation-quality colour or black-and-white graphics hard copy on new Polaroid 35mm Autoprocess transparency films and Polacolour ER 3¼in x 4¼in instant print film.

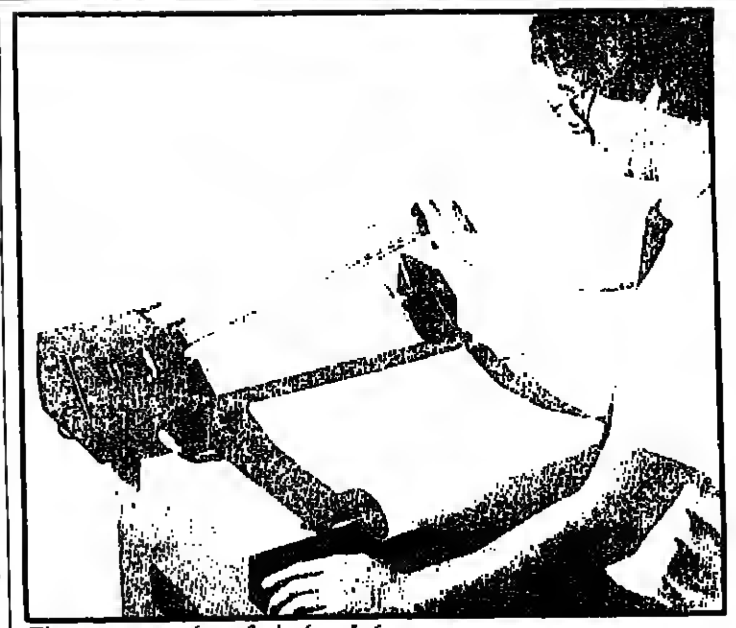
The user-friendly system connects easily to the computer by a black-and-white video line and an RS232C communication line. A compact desktop computer peripheral, Palette measures 16x8x6 inches and weighs 12 pounds.

Palette can be used with the IBM Personal Computer, as well as Apple II Plus and Apple IIe computers.

The image recorder can be used with several existing personal computer graphics software packages, and is supplied with diskette software to extend compatibility to currently available software.

Containing a flat-faced, medium-resolution monochrome video screen with a tri-colour filter wheel, Palette allows monochrome-display computers with graphics capability to produce colour hard copy for presentation, display, record-keeping or working copies.

Polaroid (UK) (CW), Ashley Road, St Albans, Herts AL1 5PR. Tel. (0727) 59191.



The new computer forms feeder from Infotec.

Feeder takes strain out of copying

ANYONE who has struggled to photocopy a stack of computer printout should welcome a new computer forms feeder, says Infotec.

It is designed to allow the user to copy stacks of printout up to 450mm wide and 245mm high in an easy way. The feeder can be manually adjusted for paper width and each page is automatically re-folded, resulting in a neat stack of printout after copying.

The feeder is available on Infotec's 9030 plain paper copier range.

Infotec. (CW), Hoechst House, 50 Salisbury Road, Hounslow, Middx. TW4 6JH. Tel. 01-572 2761.

Viewdata for the Olivetti micro

BRITISH Olivetti has brought out a viewdata software package for its M20 personal computer. The new product, Olitel, is a terminal emulator that enables the M20 to access information off Prestel and other viewdata systems. Pages can be stored locally for subsequent offline use.

Existing M20 users buying the Olitel package will require a BT-approved modem and then, having been allocated a British Telecom user number, Prestel licence holders can dial straight into the Prestel system.

Olitel costs £120.

British Olivetti (CW), 86-88 Upper Richmond Road, Putney, London SW15 2UR. Tel: 01-785 6666.

Shredders will run round the clock

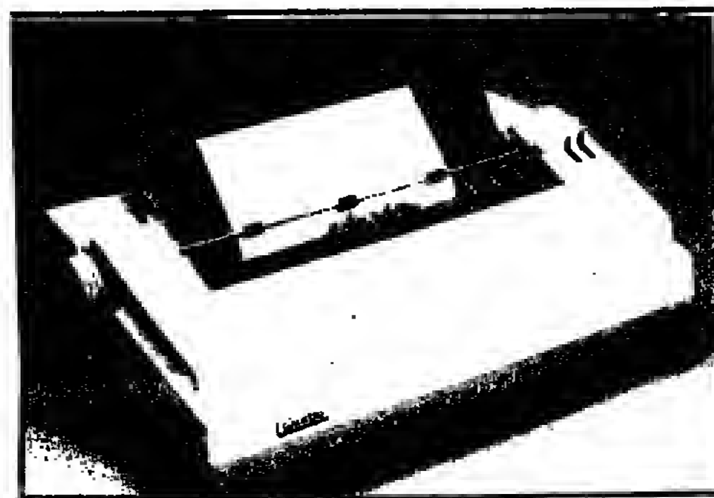
FIVE new shredders claimed to be able to run round the clock have been announced by GBC. The machines not only destroy documents but also the paper clips and staples holding them together.

GBC says many shredder motors seize after 30 minutes' continuous use, so the company has concentrated its development work in this area.

In addition the cutting heads are of hardened steel. On most models the cutting head is 25% wider than the "throat", to ensure the entire document is shredded. There is also a no-jam safety feature.

If too much paper is fed in the machine puts the motor into reverse to hand back the paperwork. Sensors elsewhere switch the machine off if the shred bag is full.

GBC (CW), Doman Road, Camberley, Surrey.



Qume's Letterpro prints at 25 characters a second.

Word processing for small business user

THE Letterpro 20 from Qume (UK) is designed to make available professional and reliable word processing print quality to the small business and personal user.

It operates at a speed of 20 chps (average English text) and can be supplied with a range of interfaces which make it compatible with most small business and personal computers. These include Centronics parallel, RS232 serial and Qume parallel.

The printwheel and ribbons used on the unit are the same as used on Qume's range of Sprint printers. Over 100 different character printwheels are available.

Accessories for the Letterpro 20 include a low-cost letter guide, continuous forms tractor and printer cover.

Qume's other products include video display alphanumeric and graphics terminals, flexible disc drives, paper handling devices and printer supplies. The company is headquartered in San Jose, California and has facilities in the US, Puerto Rico, Taiwan, France, West Germany and England.

Qume (UK) (CW). Tel. 0734 584646.

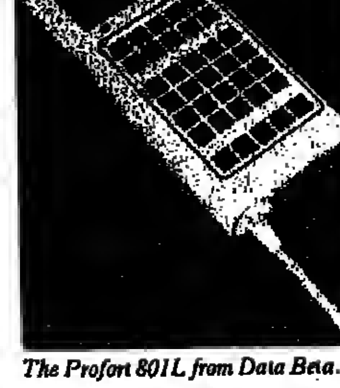
Low-power terminal

A LOW power version of the Profort 801 hand-held terminal that will operate from a tiny battery-backed power supply unit built into the 13 amp mains plug has been announced by Data Beta.

The Profort 801L is designed for use in applications in remote areas where a mains power supply is not available. The unit will operate for up to five hours after charging, which occurs automatically when the unit is powered from the mains.

The Profort 801, unlike many hand-held terminals, can replace full-size VDUs. It generates the full Ascii character set, has a display memory of 128 lines of 32 characters (2,048 characters) and will communicate at any standard rate between 50 and 9,600 baud.

The liquid crystal display accommodates two lines of 16 characters and the entire contents of the display memory can be reviewed using the up and down scroll keys. A backlight can be switched on for low light situations.



The Profort 801L from Data Beta.

The Profort 801 costs £299 (one-off) and the 801L version is priced at £399, which includes power supply and batteries.

Data Beta (CW), 23a Buckingham Avenue, Slough, Berkshire SL1 4QA. Tel. (0753) 75933/4.

PERIPHERALS 84

Cunard International Hotel, London
January 31 – February 2, 1984
10.00 – 17.30 (closing 16.00 on the last day)

Especially for the computer professional

Peripherals '84 is the central event in the computer peripherals industry's calendar, because it offers the specialist visitor like you, an opportunity to see the very latest equipment on offer from the manufacturers.

Only at a show dedicated to peripheral equipment including terminals, printers, disk drives and plotters, could you see the wide range of cost effective equipment available today to the professional computer buyer.

The show's professionalism is guaranteed by the joint sponsorship of the industry's own trade magazine, Systems International, and the Peripherals Suppliers Association. A simultaneous programme of seminars is held by the Peripherals Suppliers Association in recognition of the central place this prestigious exhibition holds in the peripheral industry. For full information of the seminar programme telephone Mrs Helen Gibbons on 0763 71209.

Both the show and the seminars are held at the Cunard International Hotel, Hammersmith, itself close to the centre of London and within easy reach of Heathrow Airport. Peripherals '84 is organised by Reed Exhibitions which also stages other major computer related exhibitions including Compec, Software and The Computer Trade Show.

So if you're looking at the peripheral market make sure you visit Peripherals '84 and discuss your needs with specialist suppliers. It's the central event for peripherals.

Return coupon to The Exhibition Manager, Peripherals '84, Reed Exhibitions, Surrey House, 1 Throwley Way, Sutton, Surrey SM1 4QQ
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PERIPHERALS 84

هكذا من الأصل

PRODUCTS

Portable pictures package

TeleRIS can draw their own pictures and diagrams on a portable computer screen through TeleVideo's TeleDraw package, available in the UK from Emotel Systems at Ltd.

TeleDraw has been designed for TeleVideo 8- and 16-bit personal computer systems and uses the new SuperMouse pointing device. It operates with Digital Research's CP/M and CP/M-86 operating systems with GSX systems extension.

Micros capable of using TeleDraw include TelePoter, the new multi-user portable which can be used both at home and as a plug-in part of the office network.

Users may soon have their portable graphics capabilities extended further through an agreement between TeleVideo and Digital Research. This allows Digital both to enhance and market TeleDraw.

Fred Langhorst, director of Digital Graphics Product Group, pounced: "We will produce a tool for visual communication that will bring the standard for the industry."

Emotel Systems (CW), 7 Imperial Way, Croydon Airport Industrial Estate, Croydon, Surrey CR0 4RR. Telephone: 01-686 9678.

Jet-age printing launch

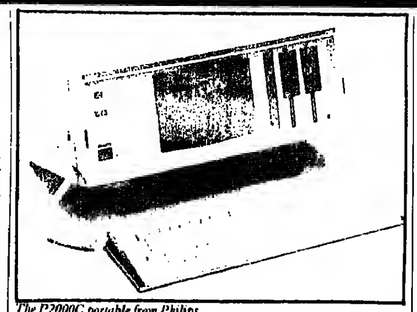
EXTENDING its ink jet printing range, Lawtons announces the UK and Eire launch of the Lawco 2000 alphanumeric small character non-contact ink jet printer. Programmable via a touch sensitive keyboard, the system is designed for high speed product and package marking, coding and dating, printing at up to 1,000 characters per second and operating at fast linear speeds of up to two metres per second.

The Lawco 2000 is said to produce high quality printing on most materials including metal, glass, film, plastic, paper, and board, and excellent legibility on all types of concave, convex, irregular and textured surfaces.

The system can be incorporated into automatic conveyor line installations and connected to standard computer equipment through its built-in universal interface: V24 - RS232 or 20 mA current loop 300 to 19,200 baud.

Water and solvent based inks are available and red, blue and black colours can be supplied.

Lawtons (CW), Packaging Division, 60 Vauxhall Road, Liverpool L69 3AU. Tel. 051-227 1212.



The P2000C portable from Philips.

Philips adds three to P2000 range

PHILIPS has introduced three new models of portable computers, the latest addition to its P2000 range.

The P2000C portable is a full function, all-in-one business computer.

All models contain a fast Z80A CPU, 64K RAM (expandable with a 256K memory board used as a RAM disc), separate 32K RAM video, 9in monitor and two 5¼in floppy disc drives.

Depending on the model selected, up to 640 Kbytes of storage per disc is possible (over 1.2 million characters). A separate, attractive keyboard can be snapped on to the computer when not in use or for moving the machine. An attachable carrying strap allows easy transport.

The ergonomic P2000C offers the power and capabilities of larger, heavier and more expensive desk-top personal computers, says Philips. The video gives a full 24x80 character display and allows high resolution graphics display (512x252 pixels). A SASI interface is standard on all models, allowing a hard disc or other mass storage device to be attached.

Also standard are serial interfaces for asynchronous/synchronous communication and printer support as well as a connector to attach a large monitor.

CP/M, the industry standard operating system, is included with every P2000C.

The keyboard has a low profile and includes a 57-key main keyboard as well as separate numeric and function key pads. The keyboard will be available in English and major European languages.

The entry model P2010 has two 160K floppy disc drives. This unit is designed to be a personal computer for company managers and executives as well as self-employed professionals.

The model P2012 is the top of the line machine sporting 640K per disc storage capacity.

In addition to running CP/M, the p-System will also be available. This provides a powerful operating system environment.

Both models are bundled with software which will include word processing and spreadsheet programs among others.

Philips Austria (CW), Business Unit Personal Computers, Triesterstrasse 64, A-1100 Vienna, Austria.

Programming in 3-D

COUNTING House Computer Systems has announced the release of G3NC, a powerful extension to its graphical numerical control tape preparation system, GNC.

Fully compatible with GNC, G3NC shares the same command structure and retains the 2D KCurve profile as a drive surface. The additional features include the definition of 3D surfaces by sweeping or spinning the 2D profile, the automatic clearance of enclosed pockets, the specification of maximum and minimum machining levels, the offsetting of part surfaces for die sinking and automatic machining to specified arc tolerance.

The new system offers two levels of use depending on the complexity of the part-surface geometry to be used. For simpler surfaces such as cones, cylinders, spheres or planes, the Root facilities offer a simple language definition, plus the ability to visualise them. This is done either by selectively drawing feature lines or with a projection of a 2D part profile on to the surface.

The milling module provides the ability to machine at a specific height or related to a selected surface by means of the cursor or joystick and profiling is around a 2D pocket wall or using a metal clearance algorithm.

Counting House Computer Systems (CW), Fornham House, Fornham St Martin, Suffolk. Tel. (0284) 68921.

System tells ops how the tape will perform

A MICROPROCESSOR-based system for maintaining and evaluating the condition of computer tapes used on 800, 1600 and 6250 bpi drives has been announced by Dennison Corp.

While previous systems have used microprocessors to control clean and test functions, the new MLT-600 extends the processor's role to interpret test results and generate detailed management records.

This means that when untrained operators handle tape maintenance functions they no longer have to make value judgments about a tape's reliability. The system tells them exactly how the tape will perform with results correlated to the error-tolerances of the DP centre's particular drives, says Dennison.

It also means management no longer has to guess about the overall condition of the tape library. The system generates cumulative reports detailing the condition of the entire library as well as reports that verify operator activity.

The MLT-600 system cleans, tests, evaluates, rewinds and removes static charge from a reel of tape in 3.4 minutes.

Users can specify any combination of procedures including clean only, clean/test, archival rewind or a non-destructive optical evaluation that checks live data tapes for certain kinds of physical damage without destroying stored information.

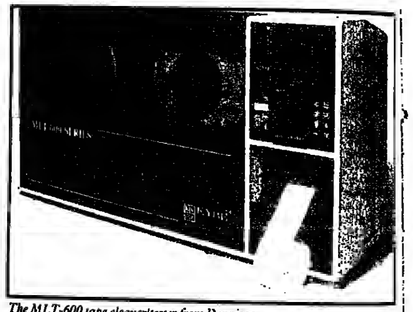
In the test mode, the MLT-600 analyses the tape electronically for magnetic defects by emulating the writing and reading techniques of a user's tape drive.

For 6,250 bpi tapes, the MLT-600 reports 1 track, 2 track and 3 track errors, permanent write errors (PWEs), and light transmission errors (LTEs).

For 1600 bpi types, it reports 1 track, 2 tracks and edge conditions errors as well as PWEs and LTEs.

For 800 bpi tapes, it counts write check, edge condition and LTE errors.

Dennison KYBE Corporation (CW), 82 Calvary Street, Waltham, MA 02254. Telephone (800) 225-8715.



The MLT-600 tape cleaner/tester from Dennison.

Genie system for UK

THE Genie 5/5 is a new Winchester hard disc drive system incorporating an exchangeable five Mbyte Winchester cartridge that will be distributed in the UK by Advanced Peripheral Products under an agreement with Genie Computer Corp.

The Genie 5/5 is one of a range of disc drive systems for popular microcomputers.

Advanced Peripheral Products (CW), Enterprise House, Central Way, North Feltham Trading Estate, Middlesex TW14 0RX. Tel: 01-844 1200.

Quick identification

AN electronic access control system has been developed by Eureka Systems, using small tags which automatically identify themselves to sensors.

Malcolm Barker, Eureka's managing director, says Eureka can do everything electronically that a conventional access control system does, but without any effort on the part of the user.

"The beauty of Eureka is its convenience," he claims. "The tag can be carried around all day in a pocket or bag, without ever being handled by its owner.

"People carrying armfuls of equipment or files, or even pushing trolleys, can breeze through without any delay and without having to hunt for their card".

The system employs a small 50p sized plastic tag, powered by a non-rechargeable battery, with a life of seven to ten years, which has the ability to memorise its own exclusive identity code and transmit this information on demand.

The code, which cannot be duplicated, will be detected and verified by a sensor up to a range of three metres.

Eurekat Systems (CW), Dorney House, Upton Road, Slough SL1 2AD. Tel: (0753) 821755.

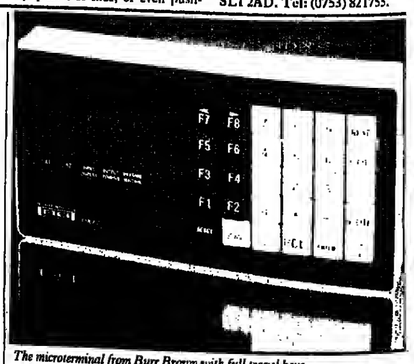
Choice of output media

A NEW version of the Tasmin word processing package for Digital Equipment computers has been produced by S-Com.

New features include Ascii output and input files, and a choice of output media and delayed printing.

The package runs under DEC's RSX, RSTS, VMS, RT-11 and POS operating systems. It costs £799 plus VAT.

S-Com Computer Systems Engineers (CW), Tower House, High Street, Aylesbury, Bucks HP20 1SQ. Tel: (0296) 32023.



The microterminal from Burr Brown with full travel keys.

Full travel keyboards

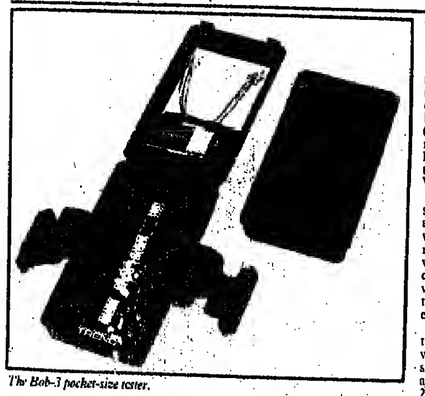
BURR-BROWN has announced a range of micro terminals based on the TM76 and TM77 series, but they have keyboards with full travel key tops over the membrane keys used previously. Identified by a suffix K after the type number, the new micro terminals are identical in performance and specifications to the present units except that the case is thicker (1.33 inches).

The micro terminals are suited to applications where faster data entry is required or where the keyboard is expected to receive heavy use. Burr-Brown expects the new keys to offer substantially longer life.

Both the TM76K and 77K have large keys that can be used by operators wearing protective gloves.

The TM76K is a waterproof terminal designed for use in industrial environments including the factory floor or, for example, the control cabin of mobile machinery such as a crane. The unit comprises a 29-key keypad (numeric key set plus eight programmable function keys and control keys), a 12-character alphanumeric display, three indicators which show the status of the units, two I/O ports and a 36-character buffer memory.

Burr-Brown International (CW), Cassiobury House, 11-19 Station Road, Watford, Herts WD1 1EA. Tel. (0923) 33837.



The Bob-3 pocket-size tester.

Bob-3 tracks troubles

BOB-3, a V24 terminal interface activity tester from Trend Communications, is a lightweight, self-contained test set. For connection between Data Control Equipment (DCE) and Data Terminal Equipment (DTE), it enables the user to locate sources of trouble between the DCE and DTE and to monitor V24 signals.

A feature of the Bob-3 is its Tri-state LEDs. These monitor line activity, mark or space, and voltage transitions by means of red, green or off display. If the voltage is negative the light displays green, with a positive voltage it shows red and when there is no voltage no light is emitted.

Battery powered, the Bob-3 contains 24 dual-in-line switches which allow any of the interface signals to be interrogated. Male and female connectors, each with 25 pins connect the Bob-3 to the DCE and DTE via ribbon cables.

DTE and DCE interface connection pins are located on both sides of the dual-in-line switches. Using the jumpers provided, these pins permit monitoring of any of the interface lines.

In addition, two extra pins enable the user to force the signal pins into either positive or negative state.

A separate bank of five dip switches at the top of the tester's control panel allow the user to swap quickly lines 2 and 3 for modem reversal and apply positive voltage to lines 5, 6 or 8 for test applications.

Measuring 14cm × 3.7cm × 7.4cm, the Bob-3 weighs 165 gms., and costs £149 (+VAT).

Trend Communications (CW), Knaves Beech Estate, Loudwater, High Wycombe, Bucks HP10 9QZ. Tel: (06285) 24977.

POLICE

What our policemen expect a computer system to do

The Durham force has specified 98% reliability for its newly- installed machines . . . . Nuala Moran reports

FROM next month the 13,500-strong Durham police force will be computerised. A non-stop system, installed last November at the Aykely headquarters, is expected to be fully operational by the end of February.

Durham police specified 98% reliability for the system. "In practice, to reach 98% reliability you must be even more efficient than that," said Peter Howson, managing director of CAP (Northern) which installed the turnkey system at a cost of £550,000.

This level of reliability is achieved with two Perkin-Elmer Series 3200 minis with a re-configuration monitor which runs as a continuous task under the OS/32 operating system. It runs on both processors, allowing each to monitor the other.

If there is any kind of failure the programs environment and the peripherals necessary to keep the operation going is passed over to the other processor.

In the Durham system, the master mini runs the applications and the slave is used for training and systems development. Either machine can perform either function. This is an advantage over other failsafe systems because the back-up computer actually does something useful, rather than being a hot slave waiting to start working if something goes wrong with the master.

In a demonstration of the system, one processor took over from the other within a minute. It took 10 seconds to register the fault and 30 seconds to transfer all functions. There is a switch to change over for regular machine maintenance.

Superintendent Eddie Marchant is responsible for the computerisation project. He explained that this was the first use of computers by the Durham police apart from some housekeeping, such as payroll, which is done on Durham County Council equipment.

"In June 1979, we started a feasibility study to identify what a police computer should do. The most important point in the terms of reference is to determine how it could help to improve the operational efficiency of police officers. There was certainly no presumption that we needed a computer system," said Superintendent Marchant.

A team went round the force and asked users what they wanted a computer system to do. "All this was done bearing in mind Home Office advice and guidelines," said Marchant.

"Because we were looking at operational needs we gave priority ratings to certain functions in terms of their contribution to operations. For this reason, message-switching seemed an obvious place to begin our computerisation. This will enable us to replace the present teleprinters," the superintendent continued.

"And this is why we specified the 98% reliability because such a system has to work 24 hours per day, seven days per week."

The message-switching system links 12 police stations in the area. Each station has at least one Lynwood VDU and Mannesmann printer. There are 38 VDUs and 23 printers altogether.

Superintendent Marchant foresaw the main advantages of message-switching as speed in preparation of messages, and the fact that there are fixed formats for the transmission of certain kinds of information so that data will not be omitted by mistake, slowing the work of the police.

For example, when reporting a stolen car, all the information required is listed in a standard form which appears on the screen, and the message cannot be sent until all the information is supplied.

All information fed into the VDUs will be kept for a certain length of time for use by local stations. In the future, a cross reference system will be developed to organise the stored information.

Emergency calls will still go via the telephone network and the system will not be used for command and control of the force.

The second function of the system is the scratch pad. This is an information file which includes details of all operational procedures. The information is held under 67 headings which were devised after studying the manual files.

The idea is to get policemen back on the streets.

Marchant said: "We are interested in quality of information so we spent lots of time drawing up the 67 file headings and organising the data that will go under them."

Information includes lists of keyholders, duty chemists, midwives, doctors, standard procedures and immediate action for dealing with emergencies.

If the information file is being used when someone is trying to transmit a message from another police station, a bell rings to alert the user. The system will save looking things up in manual files, a time-consuming operation.

The third function of the system, the link to the Police National Computer (PNC) in Hendon works by pressing one key. This turns the Durham VDU into a PNC terminal actually running on a different computer.

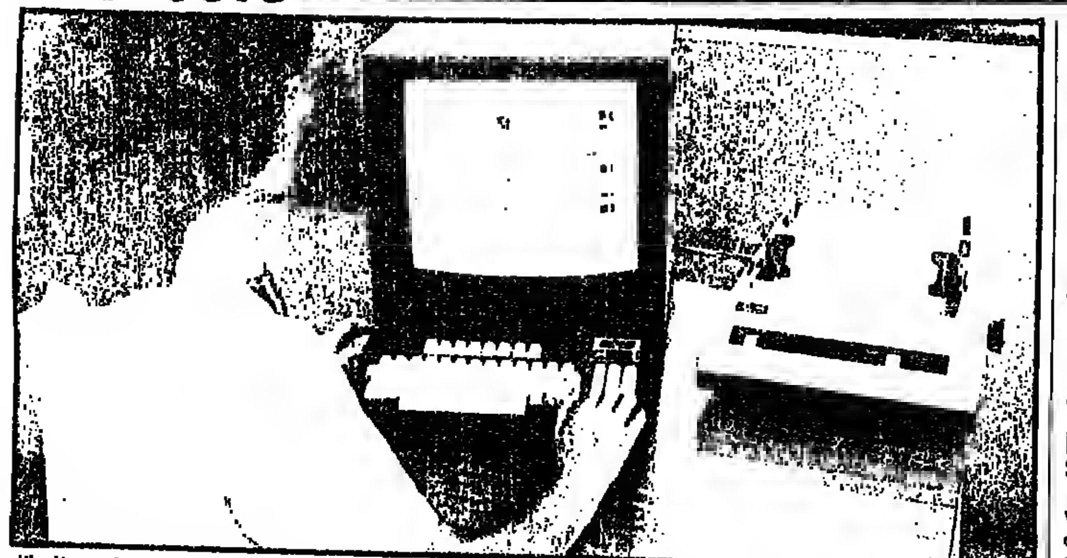
According to Howson this was one of the most difficult things about designing the whole system. "A lot of work went into making the switch into the PNC easy which is often the case with things which make life simple," he said.

The Durham police headquarters has extensive training facilities and the first course to teach policemen how to use the system took place at the beginning of November.

The aim is that everyone in the force will eventually be trained how to use the system. Durham's computer team has also been involved in appreciation courses particularly aimed at more senior officers.

All this may seem a long way from *Dixon of Dock Green* or even *Juliet Bravo*, but the idea is that by improving operational efficiency, it will be possible to get policemen back on the streets or even standing in the steps of Dock Green police station saying: "Evenin' all."

The second phase of the computerisation will start next month as soon as the first phase is running. A contract worth £150,000 has been signed with CAP to develop a criminal names index of convicted criminals in the Durham area.



The Dextralog FS2 monitoring system aimed at improving shop floor productivity.

Machine monitoring system

THE Dextralog FS2 multi-machine monitoring system introduced last year has been developed to provide greater efficiency in a number of manufacturing environments. The monitoring system is aimed at improving shop floor productivity by providing analysed information on machine performances for closer plant-wide control and long-term planning.

Data is presented in an easily usable format and users can construct their own reports enabling changes of emphasis in the selection of data produced. Different facets of the manufacturing process can therefore be monitored, exceptions highlighted and then acted upon.

The FS2 is a microprocessor controlled system which is connected to a video terminal with detachable alphanumeric keyboard. can be user selected from the database and may include information on production, scrap, balance against run, down time – its frequency, causes and amount of time lost.

Dextralog (CW), Hillside, Whitebirk Estate, Blackburn BB1 5SN. Tel: (0254) 662244.

Micro designed for hostile environments

A NEW type of rugged computer, designed to work in hot and dusty countries where voltages are often poorly regulated, has been launched by Sirton Computer Systems.

The company manufactures a wide range of microcomputers under the name of Midas. The new computer, the Midas 2D/TE, has been designed to cope with the environment associated with many Third World and under-developed countries, particularly those with a high ambient temperature, large amounts of fine dust, and widely fluctuating, and often non-existent mains supplies.

To combat high temperatures, the Midas 2D/TE, has two internal high capacity cooling fans, one for the main computer module, the other for the floppy disc drive.

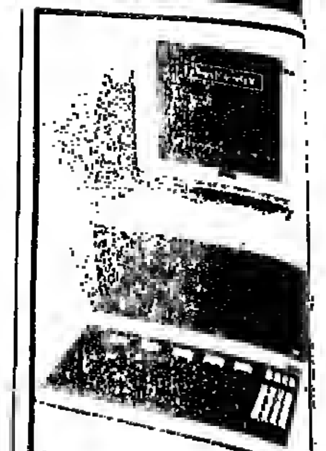
Large, and conservatively rated, circuit boards and power supply components are evenly distributed throughout the unit to keep heat dissipation to a minimum.

To eliminate dust, two large dust filters are mounted externally. These filters are easily removed for cleaning or replacement.

Developed on machines in Nepal and Gambia, the Midas 2D/TE has been designed so that if the mains voltage and frequency fluctuates beyond certain limits, or the voltage fails, the machine is instantly switched over to two standby standard car or truck batteries.

The power supply is equipped with massive smoothing capacitors, generous transformer sizes, and two-stage regulation that provides stable DC voltages over a wide range of input voltages.

Sirton Computer Systems (CW), Unit 14, 29 Willow Lane, Mitcham, Surrey CR4 4NA. Tel: 01-640 6931.



The Memory 7400.

Memory goes into business

THE Memory 7400 Series is a range of business computers. Instead of sharing a single processor, the 7400 has individual processors for each visual display unit, enabling each unit to run any application on its own screen without affecting other users. Printers can be connected directly to a visual display unit for sole use, or to the central processor for shared use.

Each terminal, with its own built-in 64Kbyte processor, has an ergonomically designed screen, a slim qwerty keyboard and a numeric keypad. The use of individual processors allows expansion of the 7400 system without any noticeable loss of response time.

The 7400 processor controls a range of hard and floppy disc drives which allows complete flexibility in an overall system. At present the system supports five workstations, but an expansion box will soon be introduced to allow the central processor to support up to eight workstations with a number of printers.

Disc capacity will also be able to be upgraded to 2x70 megabytes, with a 30 megabyte tape streamer back-up. Multiplexor boards will also be available early in 1984, each capable of supporting a maximum of four devices. This gives 7400 users the opportunity to network with Memory's single user 8000 Series micros.

The Series 7400 is marketed exclusively in the UK by Memory Computer Systems through a nationwide network of dealers. They have been chosen for their ability to provide a high level of support, at a local level, for both hardware and software.

Memory Computer Systems (CW), Britannia House, 960 High Road, London N12 9RY. Tel: 01-446 1441.

Low-cost draughting package

GRAPHICS Research based in the Netherlands has developed a low-cost two-dimensional interactive draughting package called Grid, designed primarily for small systems.

It is user friendly and requires the minimum of training.

Grid has simple draughting routines and a list of functions that include colour fill and text display that give current cursor co-ordinates.

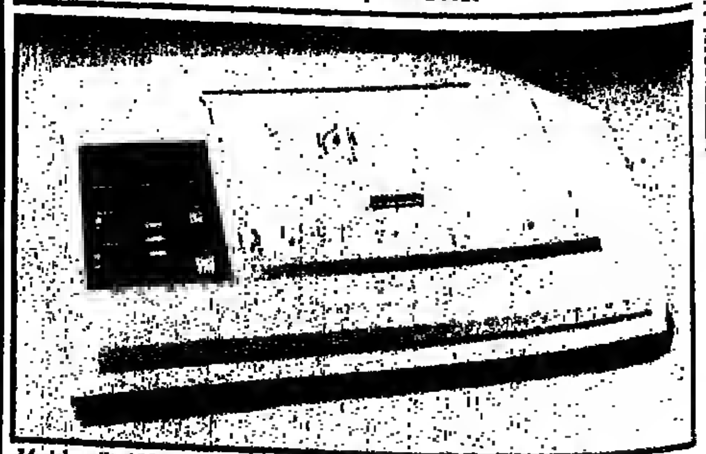
It can be enhanced with application modules tailored to the user's exact requirements.

Grid is targeted at architects, cartographers, engineers or anyone who wants to draw by computer.

It is currently available under CP/M, CP/M86, MSDOS, RSX11 and can be ordered in Basic, Fortran or Pascal.

Graphics Research is looking for distributors interested in marketing this software.

Graphics Research (CW), Zonnebaan 18, 3603 CB Maarssenbrook, The Netherlands. Tel: 010-31-30-44-53-52.



Muirhead's 6800 automatic business document fax transceiver.

Fax skips the spaces

MUIRHEAD has announced an important addition to its range of business document facsimile machines.

The new desk-top group 2 transceiver, known as the Mufax 6800 and costing under £2,000, comes with approval by British Telecom. It incorporates a special "skip white space" facility which enables the facsimile scanner to pass over areas of blank white space on an A4 page, electronically reading only the area taken up by text, drawings or diagrams.

This cuts down telephone transmission time making it possible to send a typical A4 document anywhere in the world over normal telephone lines in 30 seconds.

Copy quality in "skip white space" mode can be enhanced by selecting fine mode and transmissions may be immediately halted simply by depressing the stop button too.

Muirhead Office Systems (CW), 34 Croydon Road, Beckenham, Kent BR3 4BE. Tel: 01-650 4888.

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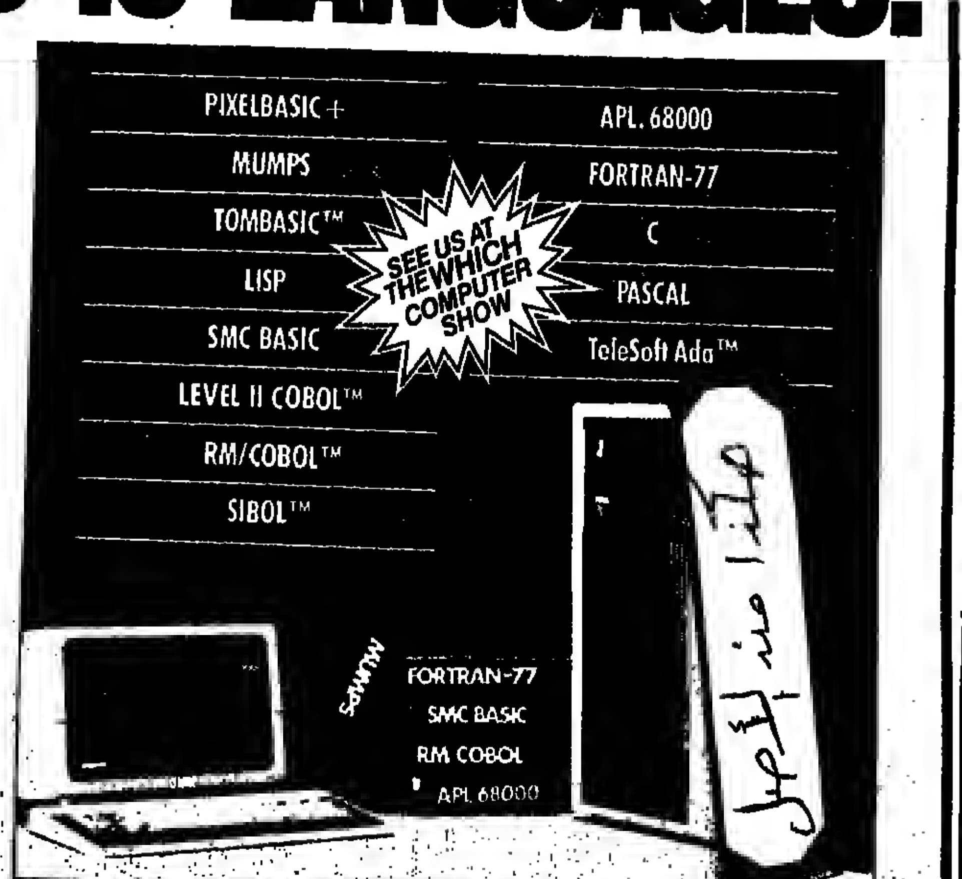
For more information call 0925 828181 or write to Pixel Computer (UK) Ltd, The Genesis Centre, Garrett Field, Science Park South, Birchwood, Warrington, Cheshire WA3 7BH.



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KNOWLEDGE IS POWER.

SOFTWARE MONTH

Pick or Unix: which is better?

Software Month predicts success for both systems

AS the new 16 and 32-bit microprocessors bring the age of the microcomputer to maturity, and simultaneously break down the traditional distinctions between micro, mini and mainframe computing, two operating systems above all others are being tipped for success in this coming era of cosmopolitan computing: Pick and Unix.

By now, there can be nobody who has not heard the historical derivation of Unix, the operating system that evolved in and for the research environment, and now reigns an undisputed leader in nearly all academic, R&D, and laboratory installations.

Perhaps fewer readers, however, will know the history of Pick, the less well-known of these two systems. Pick evolved during the years of US involvement in Vietnam; an operating system that could be used by troops under war time conditions. Callous though it may sound, one design criterion must therefore be simplicity, for there may be a high turnover of staff with little time for training.

This conceptual difference in theory has lead to the fundamental difference in practice between the two systems. Unix was designed by and for academics, and thus can and does incorporate some complicated command structures. Pick, on the other hand, was designed for simplicity with a high degree of transparency. (Indeed, it could almost be compared more to the Basic operating systems of the home computers, than to the traditional disc operating systems.)

Of course, other factors have begun to play their part over the years. While Unix was developed by a corporation and has never had the "personal" association of a product like, say Kildall's CP/M, Pick was developed by Dr Richard Pick and remains very closely associated with him. It is because Pick has stayed intimately involved with his product that it has never become as widely known or used as Unix.

There are a number of companies that have chosen to specialise in this latter product, claiming it to be a better product than Unix, especially where large numbers of users are involved.

However, commercial success for any operating system depends not simply on itself, but on the availability of application packages for the end user. It is here that Unix is likely to succeed over Pick, in volume sales at least, if only because there are more Unix developers writing for more Unix machines than there are Pick specialists.

As Perkin-Elmer's UK marketing manager Fred Mascarenhas has remarked: "The number of third party packages available under Unix is increasing exponentially, for it allows total software compatibility. It allows the writing of software which will run on more than one manufacturer's range of hardware. It allows software to be written with no ties.

"A few years ago most intelligent users decided to standardise on one manufacturer's equipment, and they often chose IBM or ICL or DEC.

"Today the same intelligent users are standardising not on hardware, but on software – and that software is Unix. No longer does the user need to worry about re-writing, or converting software when the hardware runs out of steam. He simply buys the most cost-effective hardware on the market at the time."

But according to a US survey, there are currently more Pick machines, around 14,000, worldwide than Unix processors.

"There will eventually be more Unix engines," says EDP managing director Richard Jowitt, "but they won't all be compatible. The different implementations are just that – object code isn't always portable, whereas with Pick it is. So although the number of Unix systems will appear larger, it must be remembered that there will still be more compatible Pick machines than Unix."

"Unix," says Fred Mascarenhas, "is a timesharing operating system. It provides a congenial environment in which to program and operate the computer system. It has a large number of software tools which, like the tools from a good toolbox, can be combined and used to perform complex and different functions.

"The filing system adopted under Unix is inherently simple: the hierarchical method. Unix treats everything as a stream of bytes, and therefore files, devices, even communications between processes, are totally compatible.

"Unix allows the user to initiate totally asynchronous processes while maintaining full flow control between these processes. In addition, it sports a very powerful feature known as the shell through which, with a single command, the user can initiate a stream of complex tasks."

But the Unix application market is complicated by the large number of both Unix versions and Unix derivatives (Xenix, from Microsoft – the MS-DOS company – is perhaps the best known third party attempt at making the product more user-friendly than its original).

Root Computers, a Unix specialist company, explains the situation thus:

"The first version of Unix to become available commercially was the seventh version of Unix developed by Bell Labs, and was therefore launched in 1978 as Unix Version 7. Although this is still available, companies marketing it had to make substantial changes to the original and write a great deal of additional code before it could be sold commercially.

"Version 7 was superceded in early 1982 by the release of Unix System III. This was Bell Labs'

■ Continued on page 28

"Unix and Pick? I thought that was some sort of comedy double-act!"

The pick of the packages

Ace Microsystems Ltd

Challenger House
125 Gunnersbury Lane
London
W3 8LH

Software package: Lex
Unix

Lex is a full-function word processor that incorporates text editing, a built-in mail-merge facility, and a records processing capability.

Altos Computer Systems Ltd

Manhatten House
High Street
Crowthorne
Berks

Software package: Over 100 third party Xenix packages alone
No of users: 400 plus in UK
Unix
Pick

Altos is a computer manufacturer that can provide a range of more than 100 third party software packages. Both Pick and Unix (Xenix) are supported on the 536/10-/40 systems. The Altos Pick distributor is Unison Technology Ltd, Barrowbridge, Yorks.

Applied Micros Limited

The Genesis Centre
Birchwood Science Park
Warrington
Cheshire WA3 7BH

Software: to order

Applied Micros is a microcomputer systems house which specialises in providing a high-level of service to micro purchasers. One of the largest divisions is the Unix-based Systems Development Group, which provides custom built Unix software for client applications.

Consultants (Computer and Financial) plc

2-12 Wilson Street
London
EC2M 2TE

Software package: Ships
No of users: 20
Pick

Ships is a full information processing system designed to cover the needs of the shipbroker. It includes sale and purchase, chartering, and comprehensive links to the telex network.

Software package: Cocofin
No of users: 3
Pick

This is an online trading package that covers all markets and all types of commodity.

Software package: Fiscol
No of users: 21
Pick

Fiscal is a full accounting, investment management and information system for stockbrokers.

Software package: Tims
No of users: 5
Pick

This is an investment management system to cater for the management of either the private client, pension, or other funds investment portfolio.

Computer Factors (Sales) Ltd

Marshall House
Manor Road
Coventry
CV1 2GF

Software package: Mailbrain II
Pick

Mailbrain, running on Pick-based minicomputers, is a package for mail order processing companies and large list and subscription handlers (such as publishers, charities, and so on), and the marketing departments of large companies.

Computerplan Software Services Ltd

65 Staines Rd
Hounslow
Middlesex

Software package: Stock control
No of users: 400
Unix

This is the multi-location stock control module of an order processing system. It may be linked with order entry, purchasing, invoicing and sales ledger. The language is Level II Cobol, and the system is available on Altos, Zilog, Fortune, and Plexus computers.

Software package: Payroll
No of users: 100
Unix

This is a payroll system complete with SSP facilities. The language is Level II Cobol, and the system is available on Altos, Zilog, Fortune, and Plexus computers.

Software package: Sales invoicing/sales analysis
No of users: 400
Unix

This is the invoicing/sales analysis module of an integrated order processing system. It may be linked with sales order entry, purchasing, stock control and sales ledger. The language is Level II Cobol, and the system is available on Altos, Zilog, Fortune and Plexus computers.

Software package: Purchase order planning
No of Users: 400
Unix

This is the purchasing module of an integrated order processing system. It may be linked with order entry, invoicing, stock control and sales ledger. The language is Level II Cobol, and the

■ Continued on page 28

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SOFTWARE MONTH

Pick or Unix: how does one choose?

■ From page 27

first attempt to provide Unix in a commercial form. Unix System III combined many of the features of Version 7 with another Bell Labs development called the 'Programmers' Work Bench'.

"However, Unix System III was still unsuitable for direct commercial sale, and companies such as Root began to put it in a form in which it could be sold to computer manufacturers."

Root, incidentally, uses a version of Unix called UniPlus+ developed by Unisoft Corporation in California, for which Root is the UK representative. UniPlus+, like many of the Unix derivatives, retains compatibility with the standard AT&T Unix.

"There is a shortage of reliable business software available under Unix. However, a large number of software houses have realised the potential for Unix and much effort is being put in to increase the supply.

"Unix is termed a portable operating system. In other words it is relatively easy to move Unix to new hardware. Unix also offers the advantage of being able to move applications software between Unix machines fairly easily.

"Software running on one machine can usually be moved to a completely different machine without any major problems. This means that when a company is changing or updating its computer systems, all the software used (including application software and data) can be transferred to the new computer.

"If the software is written in C (the language of Unix), then it is straightforward to move on to new machines since all Unix machines automatically have a C compiler. The portability of software written in languages other than C depends on the availability of compilers for the relevant languages on the new hardware. In this way, Unix users achieve hardware independence for their application software.

"Unix can also be run on more types of computer than can any other operating system in the history of computers. Every major manufacturer of computers has either launched or announced one or more computers capable of running Unix (from 16-bit micros to mainframes)."

"Unix can be run on more types of computer than can any other operating system in the history of computers."

This latter point is enthusiastically endorsed by Nick Lovett-Turner of Precision Software (a Unix-specialist software company). "Some 100-plus hardware companies have machines running Unix," he explained, "and all the major manufacturers have either declared their support for Unix, or will be doing so during 1984."

Answering the criticism that Unix is unfriendly, Lovett-Turner went on to comment: "What critics really mean is that it is not trivial. To harness its power requires expertise and experience. This is a great asset since it ensures a maturity and quality in Unix application software that the end user needs and should demand."

This in turn was echoed by Mascarenhas: "The reason why so many packages are being written under Unix is because of this ease of development and the standard that Unix sets. It was this type of reasoning that convinced SIS Software, one of the world's largest commercial banking systems houses, to order 10 systems from Perkin Elmer to run the Bond-Aid dealing package for installation among the big name banks," he says.

"The key to the Pick system," says IBM, "is a powerful relational database." According to General Automation: "Pick, a strong competitor for the 16-bit operating system market, is a multi-user database management oriented system."

But according to Adrian Green, a marketing support manager for Computer Automation, who, incidentally, has no plans to provide Pick, it is "a real time data processing system rather than a generalised operating system."

Pick competition

JANUARY 27 is the closing date for entries in the Richard Pick Award competition. A first prize of £1,500, a second prize of £750, and £150 for the next best five entries will be awarded for original essays of 2-4,000 words which describe in layman's terms the benefits of the Pick operating system to the end-user. Full details in the November 24, 1983 issue on page 25, or write to the Editor, Computer Weekly (address on page 2).

MASCARENHAS . . . Unix packages are common because of the ease of development.

SOFTWARE MONTH

The pick of the packages

■ From page 28

No of users: 11
Unix
Written in C, this package will run on all standard Unix systems. It is an interpreter which runs the UCSD p-System under Unix. The p-System is the standard implementation of Pascal on eight-bit micros (and notably Apple). This product enables the large existing body of p-System applications software to be ported to Unix.
Software package: Root Iann
No of users: 15
Unix
Written in C, this package will run on all standard Unix systems. A library of Isarn utilities including the ability to handle variable length records. It is primarily of use to application software developers.
Software package: Root pay
No of users: 50
Unix
This is a sophisticated payroll package that includes automated handling of statutory sick pay. It can handle up to 10,000 employees.

Savant

2 New Street
Carnforth
Lancs LA5 9BX
Software package: Mimer
No of users: 150 plus
Unix
Mimer is currently being developed to run under the Unix operating system, initially on the Vax by March, 1984. Mimer is a fourth geoeration relational database application development language, currently capable of running on a multitude of machines under a multitude of operating systems.

Software Ireland Ltd

26 Linenhall Street
Belfast BT2 8BJ
Software package: Sibol
No of users: 40
Unix
Sibol is a Unix-based language, entirely compatible with DEC's Dibol. It allows the full spectrum of Dibol applications software to be run on a Unix-based computer. Sibol consists of a compiler, a linker and a run time interpreter.
Software package: Microbird
No of users: 3
Unix
Microbird ia a text retrieval package which nllows the rapid retrieval of aelected sentences or paragraphs from large text files.

South West Technical Products (SWTP)

12 Treaham Road
Orton Southgate
Peterborough
Cambs PE2 OSG
Software package: Integrated Software
No of users: 2
Unix
Runs on SWTP hardware. It is a new multi-user, multi-company accounting and stock control package, containing full nominal, asles, and purchase ledgers; invoicing; and stock control; with 12 months' history. All of the ledgera are open item, and the only size limit is the disc capacity.
Software package: Cintra
No of users: "growing"
Unix
Runs on SWTP hardware. Cintra (clsims SWTP) is the first accounts package written in C specifically for Unix. All other packages for Unix are modifications of earlier software. It includes sales, nominal and purchase ledgers, together with stock, invoicing and so on. In the future it will be integrated to the Uniplex word processor.
Software package: Newspaper Distribution System
No of users: 2
Unix
Runs on SWTP hardware. This newspaper distribution and control system is the first full newspaper system to be implemented on a microcomputer. It handles all accounting, reports, delivery, supply, packing lists, multiple outlets, multiple publications, and unlimited circulation.
Software package: ABIES Infomatics GP Software
No of users: 15
Unix
Runs on SWTP hardware. This is a complete system for the general practitioner. It includes patient register, repeat prescriptions, recalls word processing, and accounts.
Software porkage: Vector Point of Sale System
No of users: wa
Unix
Runs on SWTP hardware. This is a micro-based electronic cash register that is user programmsble, gives detailed management control information, and links to SWTP systems for stock control and accounting functions. It is availsble as a multi-POS configuration with up to 32 terminals.
Software package: Harris Baldry Plant and Tool Hire System
Unix
Runs on SWTP hardware. This is s comprehenaive system giving plant and tool identification and location, history of usage, and sn indication of the most profitable items. It prints contract details, performs exception reporting, and performs the automatic calculstion and analyses of VAT and all invoices, statements and accounts.
Software package: Sage
Unix
Runs on SWTP hsrdware. This is a database management system, program generatnr and programming language. It is claimed to reduce coding time to a small percentage of that necessary with conventional languages.
Software package: Library Lending System
Unix
Runs on SWTP hardware. This library control system handles books, borrowers snd return dates. It prints nnd reads barcoded labels, prints overdue notices, and produces statistical reporting.
Software package: MicroModeller
Unix
Runs on SWTP hardware. MicroModeller, as perhaps the best known of all the microcomputer financial modelling packages, should need little introduction. According to the software house Logix, MicroModeller runs faster on SWTP hardware than on any other popular 16-bit microcomputer.

Stukeley Computer Services

Stukeley House
Stamford
Lewes PE9 2AR
Software package: Solace
No of users: 45
Unix
Solicitors accounting and time recording.

Systems Union Ltd

34 Delancey Street
London NW1 7NN
Software package: Sun Accounts
No of users: 45
Unix
This is a combined sales/purchase/nominal ledger system. It is multi-company, multi-ledger, and multi-currency; and incorporates a financial report writer, user-defined input formats, budgeting, graphics output, double entry checking, passwording, full audit trail, a choice of data handling, optional detail on statements, remittance reports, posting into any period, user-defined analysis codes available at posting time, flexible clear-down, connection to financial planning, order processing, and word processing, s tutorial, references und installation manual. It is written in Micro Focus Cobol.
Software package: Sun Invoice
Unix
This is a parameter-driven invoicing system for multiple delivery address customers. It has user-defined input transactions permitting up to six calculations to be performed for each invoice line based on customer code, item price and type of sale (all with manual overrides available); immediate or batch print; user-defined form surround, heading and logo; system-generated serial numbers; audit trail passed to ledger system; report writer for turnover reporting nnd sales analysis; connection to ledger system nnd from order processing; and it provides a warning whenever customer credit terms are exceeded. It is written in Micro Focus Cobol.

UCL

23 Paradise Street
London
SE16 4QD
Software package: UCL Ambulance Control
No of users: 4
The UCL System for ambulance control covers all aspects of patient travel request, planning and control, as well as producing various statistical reports. It reduces paperwork, and maximises the efficient use ambulances.
Software package: Financial planning
No of users: 11
Pick
Financial planning systems are designed to allow managers to make the maximum use of computers in planning and controlling their business more effectively. This is achieved by means of the mass storage capability and speed of calculation of these systems which allow management to experiment with a series of "What if" situations.
Software package: Lawnon
No of users: 13
Pick
The Luwnan system incorporates accounting, time recording, and word processing capabilities. It can accommodate a virtually unlimited number of client matters and is quite at home in any practice, large or small. Separate deposit and disbursements ledgers are included within the normal client and office ledgers. This allows the fee earner to access the correct financial state for a client at any time. Time recording, debt collection and draft billing are fully integrated with the accounting system.
Software package: SOP and Stock Control
No of users: 9
Pick
The UCL sales order processing and stock control system has been designed to help the progressive business streamline its order intake procedures. With the help of this system the order department

■ Continued on page 32

The pick of the packages

■ From page 27

system is available on Altos, Zilog, Fortune and Plexus computers.
Software package: Computerplan general ledger
No of users: 1,000
Unix
This is the general ledger for business accounting, incorporating analysis ledgers and financial reporting. It may be linked with sales and purchase ledgers and order processing. The language is Level II Cobol, and the system is available on Altos, Zilog, Fortune and Plexus computers.
Software package: Sales order entry
No of users: 400
Unix
This is the sales order entry module of an integrated order processing system. It may be linked with invoicing, purchasing, stock control and sales ledger. The language is Level II Cobol, and the system is available on Altos, Zilog, Fortune and Plexus computers.
Software package: Computerplan sales ledger
No of users: 700
Unix
This is an open item and brought forward sales ledger for business accounting. It may be linked with order processing and general ledger. The language is Level II Cobol, and the system is available on Altos, Zilog, Fortune and Plexus computers.
Software package: Computerplan purchase ledger
No of users: 700
Unix
This is a purchase ledger for business accounting, integrated to the general ledger, and purchase invoice register. The language is Level II Cobol, and the system is available on Altos, Zilog, Fortune and Plexus computers.

EDP Systems

1 Tapton Park Rnad
Sheffield S10
Software package: Interface
No of users: 140
Pick
EDP has been involved in Pick since 1976 and is now the sole UK distributor for the Pick-based Mentor system, and provides proprietory software for the Pick user base. The Interface system includes sales order processing, purchase order processing, inventory control, sales ledger, purchase ledger, general ledger, assets register, payroll, computer modelling and manufacturing control.

Goldcrest Computer Services Ltd

10 Tnwer Creacent
Neath Hill Centre
Milton Keynes
MK14 6JY
Software package: Goldcrest business system
No of users: 7
Unix
This integrated system includes order processing, invoicing, stock control, sales ledger/analysis, purchase ledger and payroll.

JSB Computer Systems

10 Moody Street
Congleton
Cheshire CW12 4AP
Software package: Business management systems (BMS)
No of users: 30 plus
Unix
A multi-user business system that is multi-company, and incorporates sales, purchase, nominal ledgers, order processing and invoicing, stock control, management accounting, payroll, time recording and job costing. Written in Level II Cobol, the system offers interfaces to word processing, financial modelling, database, and other office automation facilities. The company's experience with Xenix and Unix shows Unix to be less stable than Xenix. For this reason the system is installed only on Xenix Altos systems.

Medical Computer Services Ltd

Dearden Farrow
1 Serjeanta' Inn
London EC4Y 1JD
Software package: Medax
No of users: 2
Unix
A hnspital administration system for private hospitals and clinics, covering bookings, admissions, billing, purchase ledger, stock, nomioal ledger, payroll, monthly accounts and management information.

Optichrome Computer Systems Ltd

98 Maybury Road
Woking
Surrey GU21 5JL
Software package: Optimus
No of users: 10
Unix
Optimus is an integrated costing and production control system designed by printers for the printing industry. It provides sophisticated management reporting on production progress, WIP sales analysis by customer by market and costing, plus financial information. It produces on-screen pricing and invoicing.

Precision Software Ltd

4 Park Terrace
Worcester Park
Surrey
KT4 7SZ
Software package: Mistress Plus
No of users: 500
Unix
Mistress is a powerful but easy to use relational system embodying the latest in database management theory and implementation techniques to create environments equally suitable for naive or experienced users. Mistress provides an English-like query language similar to IBM's SQL, together with meaningful error reporting and an inbuilt editor for easy correction of syntax errors. It supports six basic data types, including text, and a programmer interface which allows calls from C programs at a number of levels.
Software package: Unigem Electronic Management System
No of users: 3 (new)
Unix
The Unigem Electronic Manager brings together a oumber of powerful functions for improving the efficiency and flow of information within the office. With facilities for calculation, system wide "help", text editing and retrieval and time and diary management, the Electronic Manager can save time, paper and storage apace. The Unigem sales, purchase, and general ledgers are multi-company, multi-currency systems with real-time updating and transaction logging, enabling automatic and complete recovery. Other features include formula-bsed budgeting and reallocation of costs.
Software package: XED, Word Processor
No of users: 3,000
Unix
XED is a comprehensive word processing system with on-screen formatting, text widths nf up to 252 characters and over 130 commands. Functions are accessed using either control key sequences or programmed funetion keys. At each step, a summary of the options available at the next keystroke may be displayed. XED's extensive reformatting and editing capabilities include storage of margin information for each line of text. XED includes outer menu selection of documeota, cut and paste for text and columns, arithmetic, spelling checker, mail merge and comprehensive output format options.
Software package: Viewcomp Spreadsheet Planner
No of users: 600
Unix
Viewcoinp ia a faat, flexible spreadsheet planner developed apecifically for the Unix eovironment. It allows user-definition of worksheet dimensions with access to up to 16,000 eells, and does not run out of memory. It supports a wide range of global, column, row or single cell formats, and can handle absolute, relative, or computed co-ordinate addressing. It also allows the use of C-style user-defined macros, split acreens, and many other features.

Redwood

9 High Street
St Albans
Herts
Total number of Redwood software users: 750 plus
Software package: Uniplex Word processor
Unix
Software package: Uniplex Database Management System
Unix
Software package: Uniplex Spreadsheet
Unix
Software package: Uniplex Print Spooler
Unix
Software package: Viewnix Command Screen Builder
Unix
Software package: Uniplex Menu System
Unix

Root Computers Ltd

Saunderson House
Hayne Street
London EC1A 9HH
Software package: Languages
No of users: "many"
Unix
Basic, Cobol, Fortran, Pascal, C, and Ada compilers and interpreters are available to run under Uniplus+, the Root and Unisoft implementation of Unix system III on the MC 68000. Machines available include Bleasdale, Cifer, Plessey, Torch, Codata, Wicat, NCR, Corvus, Microbar, Pixel, Sun and many others.
Software package: Spreadsheets
No of users: "many"
Viewcomp and UltraCalc spreadsheet packages are available uoder Uniplus+ (see above):
Software package: ROOTmap + Options
No of users: 300
Unix
A friendly menu front-end for Unix systems, providing a set of menus that run normal Unix functions interactively. The Manager option enables users to configure oew menus, providing a generalised menu package. The diary and mail options provide additional office facilities. The spool option controls output to multiple printers.
Software package: ROOT link

■ Continued on page 29

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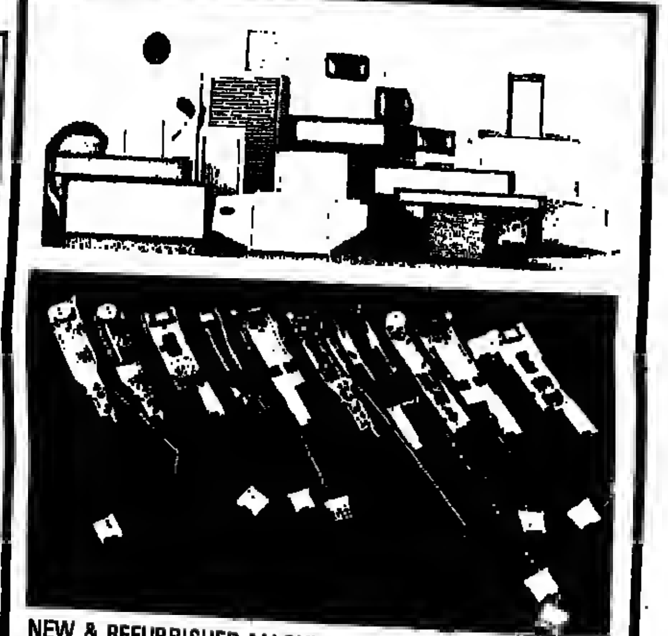

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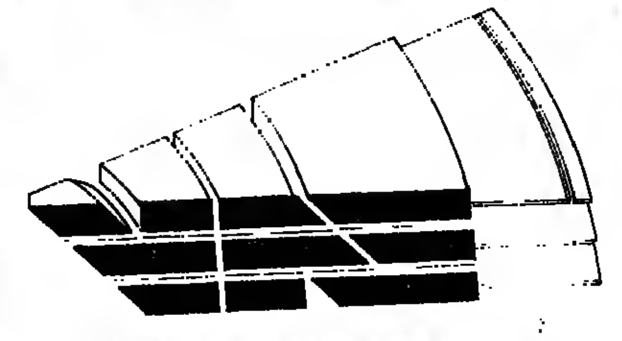

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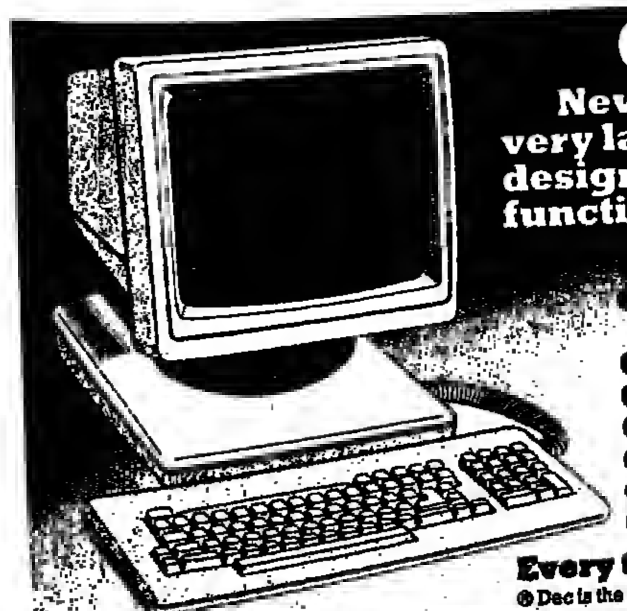

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SOFTWARE MONTH

Where Pick fits in

PICK . . . His Pick system was designed for simplicity.

TO try to understand exactly what Pick is, and where it fits in the marketplace, we talked to Rager Kenworthy, General Autometion's merketing director far European operations. General Automation has a particular interest in Pick since its Zebra range of computers was designed specifically for Pick (as opposed to the treditianal merhod of re-writing an operating system to suit a computer).

Kenworthy takes up the story: "Two years ago, General Automstion took the decision to diversify outwards from industrial automation, where the company had specialised for 15 years. We decided to provide a system that was at once transparent and efficient to the user, and could support up to 100 different users.

"Pick was already well accepted in the US, where there are something like 80 distributors. And to cut a long story short, we concluded thar Pick would become a standsrd for the 80s – it has a greater appeal to the commercial user than most other multi-user systems, particularly Unix, and is actually more efficient than Unix in installarinns witb a high level of users."

Incidentslly, the company considers that Xenix is probebly the prime alternative to Pick, and will be releasing Xenix on Zebra during 1984.

"Zebra with Pick was first shown at Comdex just over a year ago, and now runs un five systems ranging from a four-user desktop system to a 50-user minicomputer. We now have more thsn 300 Zebras installed in eight different countries."

Pick was designed for interactive online date processing and information management. It incorporates virtual memory, a file-structure and non-procedural enquiry language. Dats access is controlled through s security system that gives each user a unique file of commands, allowing senaitive procedures to be restricted to privileged users.

The virtual memory management system provides over eight gigabytes of logical address space. Multiple users can access any part of thia address space up to the available disc storage cspacity of the system.

"General Automation," commented Kenworthy, "is currently working on a joint development project with Pick Computer Works, internally code-named Vulture. It is a concept conceived by Pick and implemented on General Automation – a high performance co-processor.

"I believe, when the project is complete and working in conjunction with, say, a 5500 computer, we'll be looking at something like 2½ times the performance of the existing 5500."

Already the company claims to be the leading exponent of Pick systems. "We have the widest range of Pick systems yet available, and are the only company able to offer distributed Pick data processing. We have been enhancing the Zebra range by adding communications subsystems. We can offer Zebra to Zebra, and Zebra to host via standard protocols, and have recently announced and demonstrated an Arcnet Pick local area network."

> **"One of its great joys is that you can evolve the specification as you work."**

One of the main features of the Pick system is its dictionary-based file structure. A master dictionary is defined for each user which lists all that user's files and authorised commands. Each data file or set of files has an associated data dictionary that logically defines the structure of that file.

The dictionary can easily be enlarged or altered, and complex data relationships may be defined or re-defined without in any way affecting the actual data. The data itself can be located on any available disc space, even if this means that it will span several different disc drives.

But the real advantage of the system is that all of this is managed by the virtual memory and database software, so that it is transparent to both the user and applications programmer.

This, combined with a non-procedural fourth-generation enquiry language provides the user with the ability to produce and amend reports. It features a natural, English-like command syntax with free-form sentence structure, making it easy for the non-specialist end-oser to perform complex enquiry and reporting tasks.

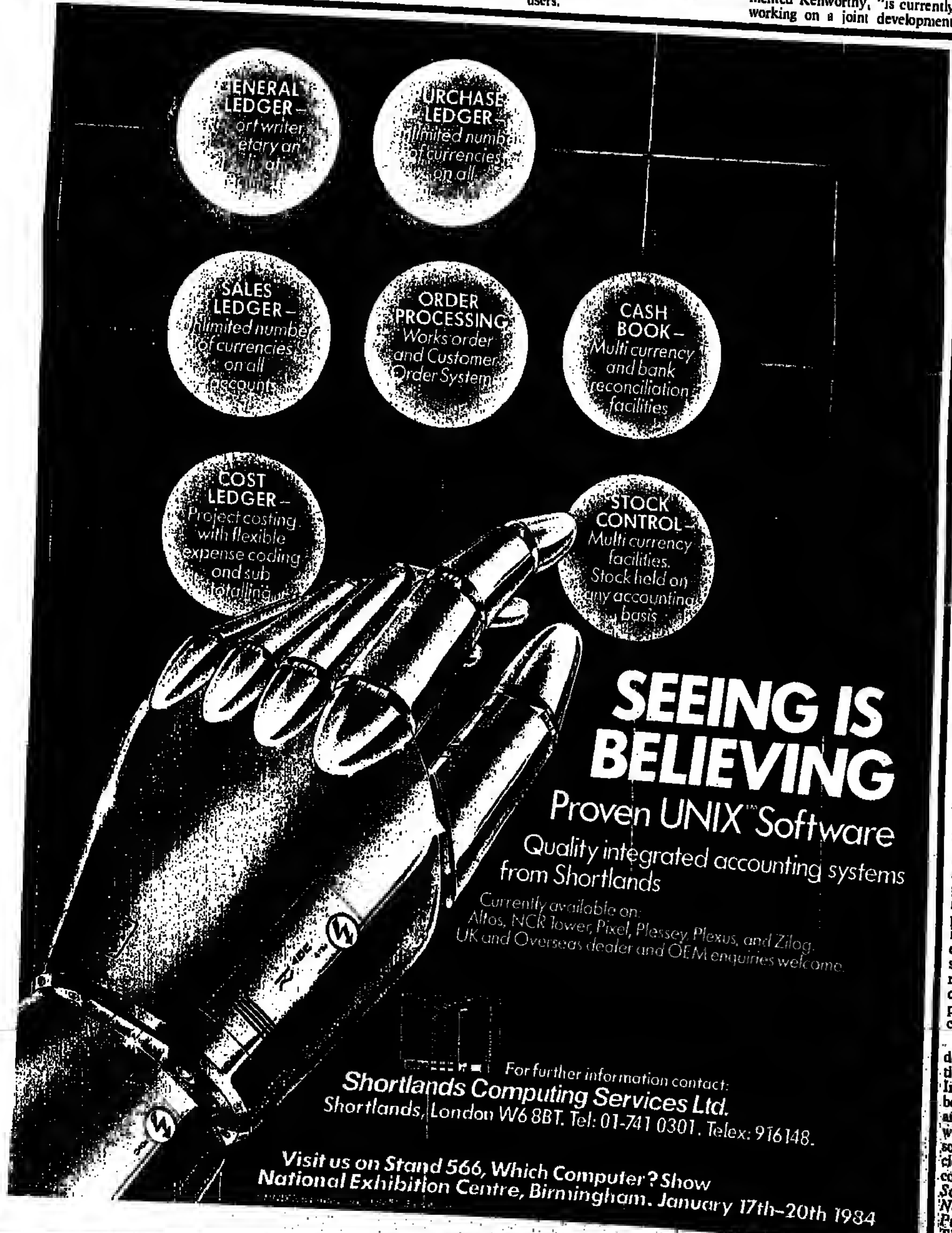
In a procedural language, the user must specify a particular sequence of steps in the correct sequence to achieve the desired result. The user is responsible for ensuring that these steps are correct and that the results sre securate. Pick allows the user to identify the desired data and leave the system to work out how that data is to be extracted.

This means that the traditional advice to end-users (that is, wherever possible, to find and use packaged software), can be slightly amended for Pick users. For though a good package may handle the greater part of an application, there always remains the small part that it cannot handle.

But since Pick is not a traditional operating system but "a total data processing system", it is a relatively easy task to modify and enhance any given package (subject, of course, to licensing agreements). The result is a tailored system at little more than the cost of a package.

"One of its great joys," concluded Kenworthy, "is that you can evolve the specification as you work. You don't need to keep strictly to a pre-defined software specification, and this makes it an excellent tool for evolving software as you go."

Which, as every project leader must surely admit, is the way in which most software is actually written!



The pick of the packages

■ From page 29

will be able to turo orders around more speedily while keeping stocks to a minimum.

Ao important feature of the system is the ability for each user to have immediate access to the computer via his executive terminal. All orders are entered at the terminal. The system then checks stocks, produces invoices, updates ledgers and stock records and accumulates information for periodic reconciliation, summaries and sales statistics.

Software package: Personnel Records
No of users: 4
Pick

The UCL persoooel Records System is desigoed to enable personnel managers or designated personnel department staff to have immediate access to any employee's details by simply keying in the oame or number at their executive terminal. Details of salary, personal history, absence record, postiogs etc, can be displayed as if looking through the pages of a book – but much more conveniently.

A special "Post" file contains details of all jobs in the organisation, whether occupied or vacant. Information such as salary grade, benefits associated with the post and job title are held in this file which can be accessed by the personnel manager to establish vacancies and exercise establishment control.

Software package: PICS
No of users: 5
Pick

The Production Information Control System has been designed to work in an online mode and links the varius departments in the company to a common production database by means of executive terminals sited around the company. The intention is to serve the needs of all departments in a company, not just the production or finance departments.

Warren Point Computers Limited

Babbage Road
Stevenage
Herts. SG1 2EQ
Software package: PDL/81
No of users: 50+

Zentec International Inc

Index House
Ascot
Berks
Software package: Uniplex
Unix

This is a family of problem solving software which maximises the benefits of Unix computers. It is designed specifically to focus the power of Unix through the careful use of the 'C' language. Uniplex is not a bundle of separate products but an integrated family of capabilities.

Software package: CIBS
Unix

An integrated accounting system for business and financial management, expandable into areas of stock and order processing together with purchase order processiog and asset accounting.

APPOINTMENTS

Computer Weekly
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Quadrant House
The Quadrant
Sutton
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Mike White
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Regional Office
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Box nos. £5 extra. Address back to c/o Computer Weekly, Classified Dept., Quadrant House, The Quadrant, Sutton, Surrey, SM2 5AS.

Lecturer in Systems Analysis and Design

Central London **c £13,000**

Our client provides education services to the computer industry throughout the UK. It is well established and part of a major high technology organisation with annual turnover exceeding £3,000,000,000. The position is located in a modern educational centre in Mayfair.

Suitable candidates should be articulate and professional with a successful background in systems design and implementation on mainframe computers.

Ideally, the successful person will be able to demonstrate expertise in one of the following:

- ★ **COBOL, PL1 or Assembler**
- ★ **Structured methoda**
- ★ **Project management**

Specialist training will be given to an enthusiastic Systems Analyst who has the qualities to develop skills in Lecturing.

This is a unique opportunity for career development in computer education with a well-organised and expanding company. The position offers a competitive salary and an exceptional benefits package.

Find out more – 'phone Knight on 01-491 4706 quoting ref GK621.

Knight
Confidential Reply

Senior Analyst Programmer (Microprocessor applications)

West London **to £17,000**

Our client is a well known multinational group of companies. Their Information Systems Department utilises state of the art computing facilities ranging from micros through a variety of mini computer systems to powerful mainframes.

You will be engaged in the development of engineering projects – process control, energy management systems and data logging etc – based largely on micro-processors linked to a range of supervisory processors including IBM Series 1.

You will ideally be a graduate qualified in the following specialist areas:

- ★ **Microprocesaor Assembler aapects**
- ★ **Communications protocols**
- ★ **Engineering/Process environment**

Familiarity with basic control concepts, ladder logic, A/D conversion and the writing of realtime software would be a distinct advantage.

You will be offered an attractive salary commensurate with your own abilities together with a comprehensive benefits package.

Find out more – contact Knight on 01-491 4706 quoting ref YY206.

Knight
Confidantial Raply

IBM System 34 Analyst/Programmers

Nottingham **c £10,000 pa**

Bell Fruit (UK) Limited is a well established and major force within the leisure industry.

The company is installing a newly developed distributed processing network of System 34's to support information processing for its locations throughout the UK.

The data processing department consists of a small development team who are responsible for an effective and efficient service.

To continue its policy of expansion the company needs additional professional people who can demonstrate the following qualities:

- ★ **A sound knowledge of IBM GSD systema**
- ★ **At least two years programming experience, preferably in RPG II**
- ★ **Good communication skille**

You will be offered a competitive salary in tune with your abilities and a real opportunity for career progression.

This is an excellent invitation to join a successful company in an attractive working location.

Find out more – contact Knight on 01-491 4706 quoting ref GK622.

BELL-FRUIT (U.K.) LIMITED

Project Leader (Life Assurance)

Hertfordshire **£13,000 to £15,000 + Excellent Benefits**

Provident Mutual is a well-established and progressive Life Assurance company. The Management Services department plays a key role in a variety of planned DP projects which place advanced computer systems at the heart of the Association's administration.

To continue their policy of expansion, Provident Mutual is seeking a professional who can demonstrate leadership qualities as well as the following experience:

- ★ **Life Assurance, preferably Pensions**
- ★ **Major project control**
- ★ **Strong analytical skills**
- ★ **On-line system design**
- ★ **Programming background (COBOL useful)**

The successful candidate will lead a multi-discipline team on projects involving both on-line and batch systems with good opportunities for advancement.

The benefits package includes concessionary mortgage facilities, non-contributory pension scheme, free Life Assurance, free lunches, subsidised BUPA, flexitime and relocation expenses.

Find out more – contact Knight on 01-491 4706 quoting ref YY402.

PROVIDENT MUTUAL LIFE ASSURANCE ASSOCIATION

Computer Operations Supervisor (Manager Designate)

Harrow **£11,500**

Our client is a multinational organisation engaged in the supply of materials for the construction industry.

Their computer centre supports a wide range of commercial applications based on IBM System 38 and Honeywell 62/50 hardware.

Sixty local terminals are in operation providing on-line processing facilities to the various parts of the organisation.

A rewarding future will be presented to the candidate who matches the following criteria:

- ★ **IBM System 38 operations experience**
- ★ **Systems monitoring/performance**
- ★ **Sound technical knowledge of System 38 utilities**

The successful candidate will initially be responsible for the day to day running of the IBM System 38 currently operating on a two shift system and the supervision of three computer operators.

This is an excellent opportunity for a person who can demonstrate the potential to assume a future managerial position encompassing additional responsibilities and staff control.

Find out more – contact Knight on 01-491 4706 quoting ref RC350.

Knight
Confidential Reply

Analyst Programmer (Database – Prime Info)

City **£11,500-£15,000 + Benefits**

Our client is a British Oil Exploration, Production and Trading organisation with international interests. The London computer services department houses two Prime's supporting 25 terminals and a range of technical and financial applications.

They currently require an Analyst/Programmer with a good educational background and sufficient experience to take responsibility for database projects, liaising directly with users.

Opportunities will also arise to work in systems administration, telecommunications and other technical applications.

Ideally your experience will include some of the following skills:

- ★ **Database applications**
- ★ **INFO**
- ★ **Fortran**
- ★ **Technical applications**

You will be offered a salary relating to your experience, and in addition some of the benefits include free pension scheme, health assurance scheme and luncheon vouchers.

For further information and an early appointment for interview phone Knight on 01-491 4706 quoting Ref YY205.

Knight
Confidential Reply

Knight

01-491 4706

24 Hours

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SALES MANAGERS AND SALESMEN
— UP TO £50,000 EARNINGS CAPABILITY

We are inundated with top quality leads and serious business opportunities. As such, we urgently seek a number of experienced Business Systems salesmen, with a proven, demonstrable track record of closing business, to join our rapidly expanding company as a Public company subsidiary.

Tradewinner offer a wide variety of Package and Custom built software running under Honeywell and ICL equipment. Negotiations are also in progress with a number of leading micro manufacturers. We seek candidates with the ability to product demonstrate, undertake initial feasibility studies, prepare a high quality tender, supported by a first class Systems Design team, and present on effective business case at Board level.

Excellent graphic aids are available. Equally, a first class reference base is already established throughout the entire UK. We are flooded with sales enquiries and actively market to provide top business opportunities for our companies. Outstanding opportunities exist for all categories of proven sales staff with early Board prospects for senior top performers. Equally, for developing a salesman, with the professionalism and commitment, opportunities to triple your earnings are uniquely available via Tradewinner. Either apply immediately for Birmingham interview, or visit us on the stand at the Which Computer? Show. If you've got the ability, we've got the quality of leads you've never seen before. At present we've got Project Managers sizing up c.£60,000 worth of business p.a. so what could you, as a 'Professional Salesmen?', sign up. Sell Honeywell, ICL and other manufacturers Trimkey products.

Contact John Wood or Bob Tait for early interview.

ANALYST/PROGRAMMERS
£6,000 to £10,000

Have you had at least three years' programming experience?
Have you had COBOL experience?
Do you know about Sales Order Processing
- Stock Control
- Purchase Order Processing Ledgers?

Have you used Honeywell or ICL equipment?
Are you eager to develop new skills?
Do you want to broaden your horizons?
Do you want technical challenge?
Do you want contact with your clients?
Can you meet your own committed timescales?
Do you enjoy working in a professional environment?
Do you want the rewards that you think you deserve?

If you have answered YES to most of those questions, then we have got a lot to offer each other. Contact us, NOW
Bob Tait or Jeff Forrester

PROJECT LEADERS/MANAGERS
10K to 14K Car at Senior Level

We are seeking experienced Systems Designers/Investigators capable of undertaking an extensive number of feasibility studies in a pre-sales support role, through to Analysing and Designing Systems, right through to team control in a development role and Systems implementation at client sites.

A considerable number of packages are already used to ability to rapidly understand the features and facilities of the varying systems ranging from Order Processing, through Stock Control into DIMP, Purchasing, Ledgers, etc. would be a distinct advantage. An understanding of Cobol is at least two years programming.

Ability to communicate professionally with users is very important. Equally so, the ability to project plan and to work within committed timescales. We in turn offer attractive working conditions, good salaries, where investment in our own Public Group.

All candidates must be resident or prepared to become resident within the Midlands, working from our Central Birmingham base at the Aston Science Park. Excellent positions. Excellent careers but with preference for the top 20% of the industry in capability, initiative and motivation. If you feel you have the ability, but would like the scope to develop, call Tradewinner, or visit us at the Which Computer? Show, January 17th-20th.

For interview at our Gate Centre call Bob Tait or Gaeti Caino.

MANAGERS — SALES SUPPORT
£12,500 plus car & bonus

Have you worked with software products?
Do you know your products technically?
Have you had experience in the following:
- Sales Order Processing
- Stock Control
- Purchase Order Processing
- Ledgers
- Payroll
- Vehicle Leasing?

Have you worked in the computing industry for at least seven years, in at least two different environments?
Have you used Honeywell or ICL equipment?
Do you want to work with a successful company?
Do you want to create further success?
Do you want to satisfy clients' business needs?
Do you want to lead others?
Do you want to work with clients and potential clients?
Do you want to be in control of your own rewards?
Do you want a company car?
Do you want to be ahead of the opposition?

If you can answer YES to most of these questions, then we would like to meet you — SOON! Contact us — NOW. John Wood or Bob Tait.

MANAGERS IMPLEMENTATION
£12,000 upwards plus car

Have you had at least seven years' experience in the computing industry?
Have you had experience in the following:
- Sales Order Processing
- Stock Control
- Purchase Order Processing
- Ledgers
- Payroll
- Vehicle Leasing?

Have you used Honeywell or ICL equipment?
Have you had COBOL programming experience, system analysis, and design experience?
Have you worked with software products before?
Do you enjoy solving problems?
Do you enjoy working with clients?
Do you think that computer systems are tools to be used to satisfy business needs?
Do you want to do feasibility studies for clients?
Do you think that ongoing support for a client is important?
Do you want to take an important role in satisfying current client needs, and in generating future business?
Do you want to lead others?
Do you want to receive the rewards that you think you deserve?
Do you want a company car?
Do you want a secure future?

If you have answered YES to most of those questions, we ought to be talking to each other. Contact us — NOW.
Bob Tait or Geoff Caine.

SALES MANAGER
TERMINAL PRODUCTS — UK COVERAGE — MIDLANDS BASED
ATTRACTIVE PACKAGE + COMMISSION

We seek an experienced Video Terminal Sales Executive capable of assisting in the development of a new venture as a Group subsidiary. We have an exciting product generating considerable interest, especially in the 132 character screen capability. We need a senior Sales Executive with a sound knowledge of protocols, able to assist and advise our American partner company, and able to assist with Datascope interpretations. We have a very large potential customer base to penetrate and enquiries already for over 1,000 units as a target market with our ultimate UK market alone of over 5,000 units.

We have the product, with top company account interest already generated from over 40 sites with 5 test sites installed and working. A knowledge of Honeywell and ICL protocols could be advantageous but not essential. The ability to sell direct to interested clients, negotiate and be essential to gain this position. A serious later Directorship opportunity exists in a Public company subsidiary, and a chance of participation in equity with attractive low tax benefits exists for a top level Sales Manager with the experience and initiative to make a viable contribution. A company car, attractive salary and usual business expenses will be provided. We seek an early start to close immediately available business opportunities. Some European travel will be involved, but very small. A Midlands home commitment is essential as an important Head Office Group member. An excellent opportunity for an experienced Terminal Systems Sales Manager to accrue a top level reward and ground floor career opportunity.

Telephone Bob Tait for discussion and interview date.

Please write enclosing details to: John Wood or Bob Tait

TRADEWINNER SYSTEMS LIMITED

Aston Science Park, Love Lane, Birmingham B7 4BJ. Or telephone 021-359 0854

(7209)

SENIOR APPOINTMENTS — £14K +

Project Managers

Pensions Systems
Database Systems

Northern Home Counties
Package c.£19,500

New Appointments
New Systems
New Hardware

Our client is a major Life Insurance company with an expanding Information Systems Division committed to developing a full range of new systems utilising on-line and real time database techniques, via proposed new and advanced hardware facilities.

Two senior appointments have been created to enable the Information Systems Division to take the maximum advantage of incoming advanced technology, and to spearhead ambitious new systems thinking, development and implementation in the company.

The **PROJECT MANAGER, PENSIONS,** will assume management and control of pensions projects employing around 20 development staff, and will take the lead role in overall systems design ensuring that emergent systems meet fully user management's business needs.

The **PROJECT MANAGER, DATABASE,** will control a small team of technical specialists in evaluating and planning a corporate database strategy in an on-line, real time, environment. Applicants should be able to demonstrate practical experience in evaluating, selecting and implementing proprietary database software.

Reporting to the Systems Manager, both appointees will be afforded a high degree of autonomy in managing mixed discipline project teams, and each must possess the potential for progressive promotion to the highest levels in the Division, in the course of time. Age indicator is circa 30. A degree or equivalent qualification would be preferable but not essential. Each should have been in data processing for a minimum of 7 years, possess recent experience of TP and On-line systems design, and have significant and successful project leadership experience in their respective fields.

An excellent starting salary will be offered plus significant benefits including free luncheons, non-contributory pension scheme, free life assurance, concessionary mortgage facilities, subsidised BUPA, Flextime, and relocation expenses.

Please send a detailed CV, or telephone or write to SARAH KENNEDY for an application form at the address below, quoting reference number GW 1178.

BIS Applied Systems Limited
York House, 199 Westminster Bridge Road
London SE1 7UT
Telephone 01-633 0866

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Salary negotiable plus shift allowance

Candidates should have a minimum of three years running on-line mainframe computer installations on a day-to-day basis. A sound technical background plus a knowledge of JCL and use of utilities are essential requirements.

PHONE 227 2480 (7092)

MANAGEMENT OPPORTUNITY WITH TOP BRITISH MICRO MANUFACTURER

MARKETING MANAGER - INSTRUMENTATION
£18K TO £22K, OXFORD BASED

We are looking for a Marketing Manager to join a small team set up to develop and support computer-based instrumentation products.

The Marketing role is key to the success of this team.

The successful applicant will be responsible for:

- ☐ Gaining a thorough understanding of the Instrumentation marketplace within the UK and overseas.
- ☐ Critically evaluating the company's current and proposed products with respect to this market.
- ☐ Preparing and implementing a marketing plan which will include determining methods of distribution and customer support.
- ☐ Recommending future product development.

This post is based in Oxford, although it may demand considerable travel overseas.

The successful applicant will have:

- ☐ *A background in Sales or Marketing, preferably with some overseas experience.*
- ☐ *Experience in working with advertising agencies, market research companies and distributors.*
- ☐ *A degree level qualification in a scientific or engineering subject.*
- ☐ *A minimum of 5 years' post-graduate experience in the electronics or a related industry.*

Salary is unlikely to be an obstacle and we offer a particularly attractive benefits package including car; 25 days holiday; free BUPA, life and disability insurance; pension scheme; and generous help with relocation expenses.

If you are interested in this vacancy please contact Polly Keane, on Oxford (0865) 726136 or by letter, for an application form, quoting reference: MMI/CW1.

RESEARCH MACHINES
MICRO COMPUTER SYSTEMS

RESEARCH MACHINES LTD Mill Street, Oxford OX2 0BW. Tel (0865) 726136

Database Administrator
Rural Midlands
c.£16,000 + Excellent Benefits

Our client is a leading name in the financial services sector with a diversified and expanding business base.

Reporting directly to the Computer Services Manager, the appointee will be wholly responsible for the provision, planning and control of the company's investment in database facilities, servicing user requirements efficiently and effectively whilst ensuring the integrity and privacy of the data resource.

This is a challenging new appointment with a company poised to make increasingly sophisticated use of database methodology and offers the successful candidate a stimulating working environment together with the opportunity to grow with the organisation. Substantial IBM mainframe exposure is required, together with a minimum of 2 years' DL/1 experience and COBOL or ASSEMBLER programming competence. Knowledge of CMS and DOS/VSE would be strong additional recommendations.

In addition to the salary as indicated, the company offers a comprehensive range of benefits including mortgage allowance, free medical insurance, generous life assurance cover and excellent pension scheme. Relocation expenses will be met as appropriate.

Please write in confidence, or telephone for a Personal and Professional History Form to JOHN KITCHEN, at the address below, quoting Ref. GW1160.

(6971)

BIS Applied Systems Limited
York House, 199 Westminster Bridge Road
London SE1 7UT
Telephone 01-633 0866

BIS Applied Systems

SENIOR APPOINTMENTS – £14K +

General Manager – OPERATIONS

£16-20K plus relocation

Rural Essex

Our Client is one of the UK's largest and leading Computer Services Companies, with an already large and constantly expanding VTAM network, supporting over 1,800 TSO terminals and RJEs throughout the UK, and two largescale IBM mainframe Computer Centres, one of which is situated in an attractive rural area of Essex.

The installation is equipped with two mainframes, an IBM 3033 and an Amdahl V7, running MVS/JES2, with a major machine upgrade, possibly involving the installation of a third large mainframe, and migration to MVS/XA planned for this year. IMS DB/DC, CICS/DL1, VM/CMS, TSO/SPF and NCP are also extensively used.

The Operations function currently comprises approximately 20 Operators, working a three shift system in an automated environment and an Operations Manager. A new appointment has now been defined, at Senior Management level, for a General Manager – Operations to take overall responsibility for Operations policy within this large and very busy Computer Centre.

Key requirements are a long and in-depth association with IBM hardware and clearly evident leadership, organisation and business planning skills. The ideal candidate will have a working knowledge of IBM systems software and networking principles and a dedicated approach towards the appraisal of user requirements and the appropriation of resources, to provide the most efficient and cost effective service to customers, whose activities range from commercial data processing, through manufacturing into areas of high technology.

Career prospects are good, as one would expect in such a major and highly respected Organisation, and attractive terms and conditions of employment are enhanced by relocation assistance, which is available where required.

Suitably qualified and interested candidates are invited to forward a concise c.v. to **Ian Payne,** Major Account Manager, at the SCR Birmingham office, giving details of current and expected earnings, home and office telephone numbers (to be used with the utmost discretion).

Initial interviews will be held at SCR offices throughout the UK.

Technical, Sales & Management Appointments

SCR

Specialist Computer Recruitment Ltd

SOUTH
James House, 46 James Street,
London W1M 5HS
01-935 0671/486 0481

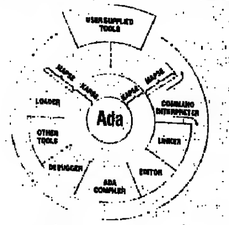
MIDLANDS & INTERNATIONAL
35-37 Great Charles Street,
Queensway, Birmingham B3 3JY
021-236 3781

NORTH
International House, 84 Deansgate,
Manchester M3 3EE
061-833 0427

BELGIUM
Avenue Louise 327,
Boite 4, 1050 Bruxelles
010 322-640 7151/71

HOLLAND
Willemsparkweg 92,
1071 H M Amsterdam
010 3120-760947

Software Tools..



For the love of Ada

Prestigious Central London Offices

Salaries £8,000 to £16,000 neg.

The FIFTH Generation of systems is almost upon us and with it comes the industries demand for powerful application software tools and proven support environments. We are addressing this key need **NOW** with the establishment of a **New Company** that is creating the software tools of tomorrow.

We wish to attract a Project Leader, a number of creative Software Designers and several talented Programmers who through their original thinking will realise our Ada/APSE products.

Our preference is obviously towards people with existing Ada/APSE knowledge, however if you have in excess of eighteen months real-time systems software experience in high level block structured languages, particularly PASCAL, you should apply. As a major Hi-Tec company we have the resources to offer training where necessary, which will equip you to tackle our future development programme that incorporates techniques such as:

* **Artificial intelligence**
* **Integrated environments**
* **Automated software design**

Our environment befits a 'leading edge' technology company, where individualism and teamwork are both encouraged. Our project teams enjoy dedicated 'state-of-the-art' development facilities based on powerful 32 bit superminis.

The atmosphere at our new prestigious offices is relaxed yet creative – informal yet professional with the accent on success.

If you feel you could contribute to this exciting new development project then apply to **Alan Carnell** on **01-935 0671** (24 hour answering service) or Harpenden 05827 2976 (evenings and weekends 7-9.00 pm.), if you prefer however, submit your detailed Curriculum Vitae to our London office quoting reference GS1.

(7153)

Technical, Sales & Management Appointments

SCR

Specialist Computer Recruitment Ltd

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Queensway, Birmingham B3 3JY
021-236 3781

NORTH
International House, 84 Deansgate,
Manchester M3 3EE
061-833 0427

BELGIUM
Avenue Louise 327,
Boite 4, 1050 Bruxelles
010 322-640 7151/71

HOLLAND
Willemsparkweg 92,
1071 H.M. Amsterdam
010 3120-760947

UNIX Support/ Dev.

Herts. c£12,000

A major manufacturer of advanced computer systems is seeking additional experienced software people in several areas. They would be particularly interested in development people with experience of porting UNIX to new hardware. Ideally candidates will have a good industry awareness and be able to advise marketing people and influence product planners in identifying new products.

Comms. Product Dev.

Herts. £10K-£18K

Whichever aspect of data comms. you prefer you can be sure there is interesting work being done by this client in the area of your choice. Extensive use is made of the M68000 processor and most work is being done in 'C' or assembler. You can join in on X.25 projects, L.A.N. systems, inter-networking, modem design, etc. Let us know your requirements.

DEC Programmers

Berks/Herts. £8K-£12K

We have been approached by several companies with very specific requirements for software people to work in their development groups. The various opportunities provide an attractive range of careers to programmers with 1 to 4 years experience. The work covers systems software, real time applications, communications and imbedded micro systems. Assembler and/or high level languages of interest.

Electronic Designers

Wilts. £10K-£12K

This is an ideal opportunity to join a rapidly expanding, very successful, high technology company in their modern development centre. The company has a range of micro based products in the office systems area. Ideally we would like candidates to have a minimum of 3 years digital design experience using TTL/LSI. Relocation assistance where required.

DB Analysts/ Designers

London to £20,000

This company's reputation in international computing circles is second to none. To enhance and maintain their reputation they recruit only the best in their field. Analysts with IBM mainframe experience and designers with systems software and DB design experience are required to strengthen the communications division. Candidates with depth of experience in mainframe software please get in touch.

Pascal Programmers

Sussex £10K-£15K

Continuing development of their product range has created the need for further recruitment in our client's systems development team. They require experienced real time programmers with a background of at least 3-4 years using Pascal. Ideally candidates will have used Intel development systems. Applications cover process control, graphics, on-line communications with a stress on human interface considerations.

Systems Executive

Herts. £10K-£12K + car

Approximately 3 years commercial applications including communications, office automation and COBOL are the prime requirements for this specialist support role. You will work in close conjunction with the sales and marketing department and be responsible for the installation and post-sales support of Distributed Data Processing and Office Automation software, together with some pre-sales work.

Pascal M68000

Berks. £8K-£14K

A number of software people are required to fill new vacancies created by expansion. Our client is developing specialised products for communications and broadcasting. These are M68000 based with most development taking place on a host DEC machine using assembler or Pascal. An O.S. specialist with M68000/VERSADOS skills would be of particular interest. A very attractive company.

VAX Support

Essex to £16,000

A major manufacturer with a reputation for high technology products in computing and electronics is seeking experienced DEC software people to help with the internal support of their VAX/VMS development system. In the near future this will extend to their CAD system. Ideally candidates will have Fortran/Algol/Coral experience with a knowledge of Macro 32 and networking.

Tandem Development

Herts. to £12,000

Opportunities to work on Tandem computers without previous Tandem experience are uncommon and extremely attractive. Our client wishes to meet genuine systems software development people who are keen to develop their careers in a software products company. If you have one or more years experience using assembler and a high level language we would like to hear from you.

Systems Designers

Herts. to £14,000

Software engineers and electronics engineers are required to participate in major new product developments in communications, office system products and L.A.N. applications. Previous experience is only confined to technical applications. The primary requirement in this company is a positive attitude and a desire to succeed. The company has an excellent programme of internal training. Relocation assistance.

Comms. Support

London c£16K + car

This is a very attractive opening for a communications specialist to join a rapidly expanding computer manufacturer in a front-line support role. Our client's name is well known and highly regarded by most experienced people. Your knowledge should cover common protocols, SNA, 3270, networking etc. Ideally with experience in the banking and/or financial sectors on mainframe or large minis.

S/W Tech. Authors

Beds/Hants. £9K-£13K

These are no ordinary positions; we are convinced that any technical authors who are seriously interested in developing careers with leading companies in the computer industry should be talking to us. Our clients are seeking experienced authors who can work closely with software and/or hardware development teams to prepare user manuals and operating instruction texts.

UNIX-'C' Programmers

Berks. £9K-£14K

Few companies can demonstrate a more impressive record in the development of microprocessor software. Recent projects include the production of a COBOL compiler for operation under UNIX. We are now seeking programmers with a background in systems software and INTEL micros to participate in the development of associated run-time systems in 'C'. A position also exists in the compiler support team.

Banking Proj. Mgr.

Herts. c£16K + car

A highly successful U.K. subsidiary of an American company is seeking an experienced project manager to handle major business in the banking sector. Candidates will need to be familiar with banking applications. They will also be required to demonstrate a positive attitude to good client relations and will be technically competent in the areas of TP and communications.

Project Managers

Hants/N.W. c£16K + car

We wish to hear from candidates who have had significant technical experience in major real-time projects. As well as technical experience in signal processing, C³ defence systems, use of MASCOT and knowledge of high and low level languages you will need experience in project control in a commercially aware environment to lead people on fixed price contracts.

Client S/W Support

Bucks & N.W. to £16K + car

Continuing expansion in this highly successful manufacturing company opens the door for software people with experience in on-line D.P. systems, T.P. and comms. Candidates will be expected to assist clients with applications development, perform sizing as required and generally act in an account manager capacity. Excellent prospects and reloc. assistance where appropriate.

Micro Development

W.Herts. to £13,500

Our client occupies a leading position in the design, development and manufacture of a range of micro based data capture terminals in retail applications. Additional team members are required for a new project just being manned. Candidates will need real time programming skills with assembler and a high level language. RSX and CP/M desirable, 2780 comms. useful.

Videotex Development

London to £16,000

Attractive positions exist for software professionals in the further development of viewdata products and related technologies. Currently using PDP11 and VAX with RSX11 and VMS but shortly adding UNIX and 'C' for development tools. Fortran experience would be of immediate interest. Positions range from development to project management in a customer environment.

International Consultancy

Surrey to £13,000

Programmer/Analysts and Systems Analysts with 4 years experience gained in a commercial computing environment using assembler or high level languages on mini or mainframe equipment could significantly broaden their experience by working for this international consultancy. Work assignments are in the U.K. or worldwide. Applications cover the full range of business and commercial systems.

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CAPP Associates has been assigned the task of finding high calibre computer professionals for Schroder Wagg – one of the city's leading merchant banks. So we are looking forward to receiving your call, when you can discuss some exciting career opportunities with us.

The hardware configuration consists of 5 Hewlett Packard 3000's running under MPE IV. The Image Database Management system and laser printers are used in an environment which offers considerable potential for the continuing development of interactive systems. The following posts need to be filled:–

SYSTEMS ANALYSTS £11-£15,000 p.a.

to join an expanding team taking over from consultants and a bureau operation, implementing banking and investment systems. With a minimum of 3 years analysis and design experience, you should have completed at least 1 system from initial study stage through to implementation. Experience of financial systems and a flexible approach to problem solving are required, whilst familiarity with database, on-line working and programming will be an advantage.

PROGRAMMERS to £9,500 p.a.

– around 1-2 years sound Cobol experience is ideal for these positions in a young and effective team, with one post requiring more experience, for which a suitable salary will be negotiated.

Some exposure to on-line, database working is an advantage although good batch experience would be considered. Conscientious and talented programmers will find these to be excellent career opportunities, with Hewlett Packard training provided as necessary.

In addition to very competitive, negotiable salaries, Schroders offer an outstanding benefits package which includes home mortgage subsidy, season ticket loan scheme, non-contributory pension with free life assurance, free PPP medical insurance, free lunches in the staff restaurant and 4 weeks holiday.

Either call into our offices or telephone for a preliminary talk, or send a full C.V. quoting ref: CW 002-4B.

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International & UK Recruitment Consultants

INTERNATIONAL BANK £11,000+ Bonus
City based bank has a vacancy for an ambitious analyst/programmer with two years+ experience on mini-mainframe using Business Basic or Basic. The ideal candidate will be looking to take on a responsible role and get involved with financial systems from design through to implementation. Very generous banking benefits. REF. M/W4023

DATA GENERAL/COBOL £10,000
London based manufacturing company urgently require an analyst/programmer with a mini background. Data General being particularly desirable. The D.P. department is fairly small and you will adopt the role of second in command so a mature attitude is essential. Your involvement will cover development and support and your user liaison skills will be used to the full. REF. M/W4006

ZOOM INTO '84 ESSEX/CITY £10,500
Due to expansion a unique opportunity has arisen for all levels of programmers and analysts/programmers. At present you will be working in an IBM 4341, DOS/VSE, COBOL environment and have some experience of CICS, DL/I on VSAM. The company offers excellent opportunities within a growth of environment, and a full range of benefits. REF. E/W2727

IBM SYSTEM 38 CITY To £12,500
Excellent opportunity for a successful analyst/programmer to a lively environment. The ideal candidate will have three years D.P. experience with good RPG III skills, technical ability and user liaison. Some U.K. travel is envisaged. Banking benefits are included, on top of a competitive salary. REF. E/W2863

ANY ICL COBOL ESSEX & CITY To £10,000
1984 expansion plans + existing development projects = fantastic opportunities for programmers with 12 months+ ICL COBOL experience to join this friendly team. The company offers extensive training in their software products and some great prospects for advancement. REF. D/W3008

HONEYWELL WEST LONDON To £10,500
Rewarding career opportunities for programmers with 18 months+ Honeywell COBOL experience. Your database and on-line experience would be useful, but this is not essential as this prestigious organisation offers extensive training facilities and great prospects. REF. D/W3042

IBM SYSTEM 34/BANKING £14,000+ Perks
Superb opportunity for 1984! Three years + IBM System 34/RPG II essential, with strong analytical skills, but willing to program where necessary. Occasional European travel, and the prospect of taking over the department. Full benefits package includes subsidised mortgage, cheap loans, etc. REF C/W4027

JUNIOR RPG II/SYSTEM 38 £8,000 neg.
Can you offer six months+ solid RPG II/System 34 experience? You may be a programmer now or a programmer/operator; this is your chance to move onto an IBM System 36, and get involved with the development of financial/insurance systems, and a network of IBM PC's. Benefits include health insurance and mortgage subsidy. REF. C/W4028

HEWLETT PACKARD – COBOL To £12,500
Exciting opportunity within a leading London based leisure organisation. They are seeking an analyst/programmer with 18 months+ HP3000 COBOL experience to develop new office automation systems. Lots of analysis work, and scope for advancement. REF. A/W4033

DEC/PDP – BASIC + 2 £9,500
My client, a leading London based transport organisation, is seeking an enthusiastic, ambitious individual with a solid DECPDP, RSTS/E, BASIC + 2 background. The 'sky is the limit' regarding promotion prospects, it is anticipated that the successful applicant will move into management next year. REF. A/W4034

DATAPOINT MIDDLESEX £8-13,000
Expanding software house requires programmer with a minimum of 18 months DATAPOINT experience using DATABUS. Great team atmosphere and excellent career prospects for an ambitious candidate. REF. M/W3614

ICL 2900/VME ALL LEVELS £8-11,000
1984 will be a good year! My client is in the financial sector and requires people at all levels to join their development team. 18 months+ ICL 2900 COBOL is essential coupled with good VME/B or VME skills and some experience of ICAMS or TP84S. This is an outstanding opportunity to further your skills and increase your salary in an interesting and stimulating environment. REF. D/W4314

RETRAIN INTO BANKING £ FIVE FIGURES!
Good VAX BASIC+/BASIC+ 2 experience is required by this City based bureau organisation catering for Banks throughout the world. They offer re-training in their advanced banking projects and plenty of development work. Good prospects for advancement into analysis. REF. A/W3787

COBOL/CICS CENTRAL LONDON To £11,000
Petroleum company in Central London has formulated its plans for 1984, and requires six programmers and analyst/programmers. Two years IBM COBOL with some CICS and/or DL/I is essential. MVS is preferred, though they will look at good DOS/VSE people. Four positions will be pure development for at least three years, and two will be support roles, involving extensive user liaison. REF. C/W3970

SYSTEMS ANALYSTS/ESSEX To £14,000
Because of increasing demand for new systems, I have two clients wishing to recruit a number of analysts to work on the design and development of financial and commercial systems. These are challenging positions with excellent career opportunities, if you have over two years analysis experience, and have taken at least one project from design to implementation, I would like to hear from you. REF E/W3899

IBM SYSTEM 38 £8-13,000
I have opportunities for 1984 in Middlesex, Bucks and Central London for analysts/programmers and programmers with 18 months+ RPG III experience, wishing to increase their salaries and promotion prospects. For a new challenge in the New Year please ring me. REF. C/W2231

These positions are just a brief selection from our extensive database of jobs in London and the South-East. If you cannot see a position advertised for your particular skills, or are considering re-locating or a change of hardware, a quick phone call will put you in touch with a consultant specialising in your field. 70% of jobs in this industry are never advertised. Why not let us tell you about some of them? We look forward to hearing from you.

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After all the talk about the wonders of Information Technology and the paperless office of the future, it's surprising how few of the country's larger organisations are in fact tackling the task of fully integrating their electronic aids. Most seem content to keep their resources dissipated and ultimately less efficient.

Not so at the **Electricity Council**, the central body for the Electricity Supply Industry in England and Wales. Here there is a forward line in thinking, and talk is already being turned into action.

The Council has brought together its support services for Office Systems, Computing, DBMS, Word Processing, O&M and Digital PABX (ICL 2957, Wordplex, IBM bureaux, GEC, TI, Telex Manager, Micros), to form an Information Technology Unit.

Now we're bringing together the skilled professionals to form the unit's small multi-disciplined team. This will be the central task force implementing a long term integrated strategy for the structured development of Information Technology.

More than just a project, the scope and complexity of this strategy will demand imagination and commitment from the IT team, but there is no doubt that in return it will offer a unique challenge, innovation and career value to those who join us. An attractive package of benefits will be offered in addition to the salaries quoted, and assistance with relocation may be available.

Listed below are the specific jobs for which we're now recruiting and an outline of the experience and skills required for them.

*If you can match your cv to any one of these jobs, we invite you to phone our I.T. Controller, **Richard Paine**, for a preliminary discussion and perhaps to arrange an interview. He will be available in the evenings between 8 pm and 10 pm weekdays or weekends on this number:-*

0342 87577

*If you prefer, you can write with full details of your qualifications and career indicating which vacancy interests you, or telephone for an application form to: Recruitment Officer, **The Electricity Council, 30 Millbank, London, SW1P 4RD. Tel: 01-834 2333, ext. 344.***

HEAD OF SYSTEMS ANALYSIS AND PROGRAMMING
£16,187–£19,348 (Ref.103/CW)

- Experience in systems analysis/design and the development of on-line systems using data base management systems preferably TPMS, IDMS/X using DDS under VME.
- Knowledge of major languages preferably ICL Range Cobol and Fortran 77.
- Knowledge of modern methodologies including data analysis, structured development techniques and office systems (word processing, text retrieval, etc.)
- Analytical and communication skills – to liaise with user departments and to lead a small team of professional systems analysts and programmers.
- ICL experience.

SENIOR COMPUTER SYSTEMS AND COMMUNICATIONS ENGINEER
£14,261-£17,653 (Ref.99/CW)

- Experience in planning and installation of communications and computer networks including the evaluation of hardware, software, and writing of or modifying interface software to produce an integrated computer, communications and office system.
- Knowledge of computing science, telecommunications and data transmission.
- Familiarity with modern computer and communications techniques including local area networks and digital PABX.

SENIOR PROGRAMMER
£10,408–£12,628 (Ref.102/CW)

- Experience of designing, writing and testing computer programs in the main languages, preferably ICL Range Cobol and Fortran 77.
- Knowledge of application generators, computer systems, operating system software, and of computer hardware and its performance capabilities.
- Familiarity with data base management and data dictionary techniques preferably IDMS and DDS under VME.
- Familiarity with modern methodologies including structured programming techniques.

SYSTEMS PROGRAMMER
£9,441–£11,437 (Ref.116/CW)

- 2 years' experience in systems programming and operating system software evaluation, testing and recovery, preferably under VME.
- Knowledge of data base software, data dictionary, computer hardware and its performance capability.
- Familiarity with computer operations and application programming.

APPLICATION PROGRAMMERS
£9,441–£11,437 (Ref.117/CW)

- 2 years' experience in designing, writing and testing computer programs in the main languages, preferably ICL Range Cobol and Fortran.
- Knowledge of computer systems, operating system software, and of computer hardware and its performance capabilities.
- Familiarity with data dictionary techniques, preferably DDS under VME.
- Familiarity with modern methodologies including structured programming techniques.

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IBM FOCUS Programmers
IBM FORTRAN Programmers
IBM MAAPICS Programmers
IBM VSAM CICS Assembler Programmers
IBM Systems 34-38 Conversion Analyst Programmers
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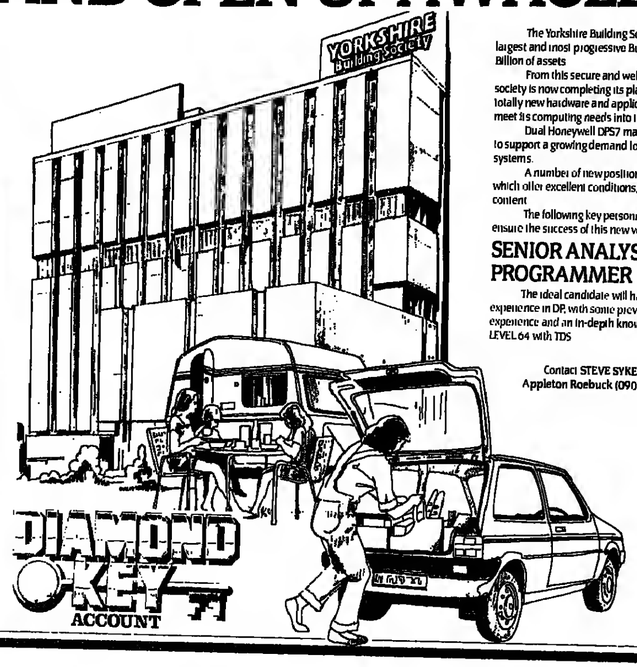

The Yorkshire Building Society is one of the UK's largest and most progressive Building Society's with over £1 Billion of assets

From this secure and well established base the society is now completing its plans for the introduction of totally new hardware and application systems designed to meet its computing needs into the 1990's.

Dual Honeywell DPS7 mainframes will be installed to support a growing demand for on-line and real-time systems.

A number of new positions have been generated which offer excellent conditions, progression and technical content

The following key personnel are now required to ensure the success of this new venture.

SENIOR ANALYST/ PROGRAMMER c£11,000

The ideal candidate will have at least 4-5 years experience in DP, with some previous supervisory experience and an in-depth knowledge of COBOL, DPS7 or LEVEL 64 with TDS

ANALYST/PROGRAMMER c£8,500

We are seeking 2 bright Analyst/Programmers with a minimum of 2-3 years experience in IDL and in-depth knowledge of COBOL, preferably on DPS7 or LEVEL 64 with TDS. Candidates with experience in a similar environment will also be considered for these posts

This is a rare opportunity for top calibre people to join a large, successful and expanding organisation at the outset of this major development. The jobs are stimulating and challenging as you will be working with "State of the Art" hardware and software and there are ample opportunities for progression as the department grows

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Contact **STEVE SYKES** or **JOHN MASON** on **Leeds (0532) 455911** during office hours or **STEVE SYKES** on **Appleton Roebuck (090484) 350** evenings and weekends, or write to the address below with brief career details

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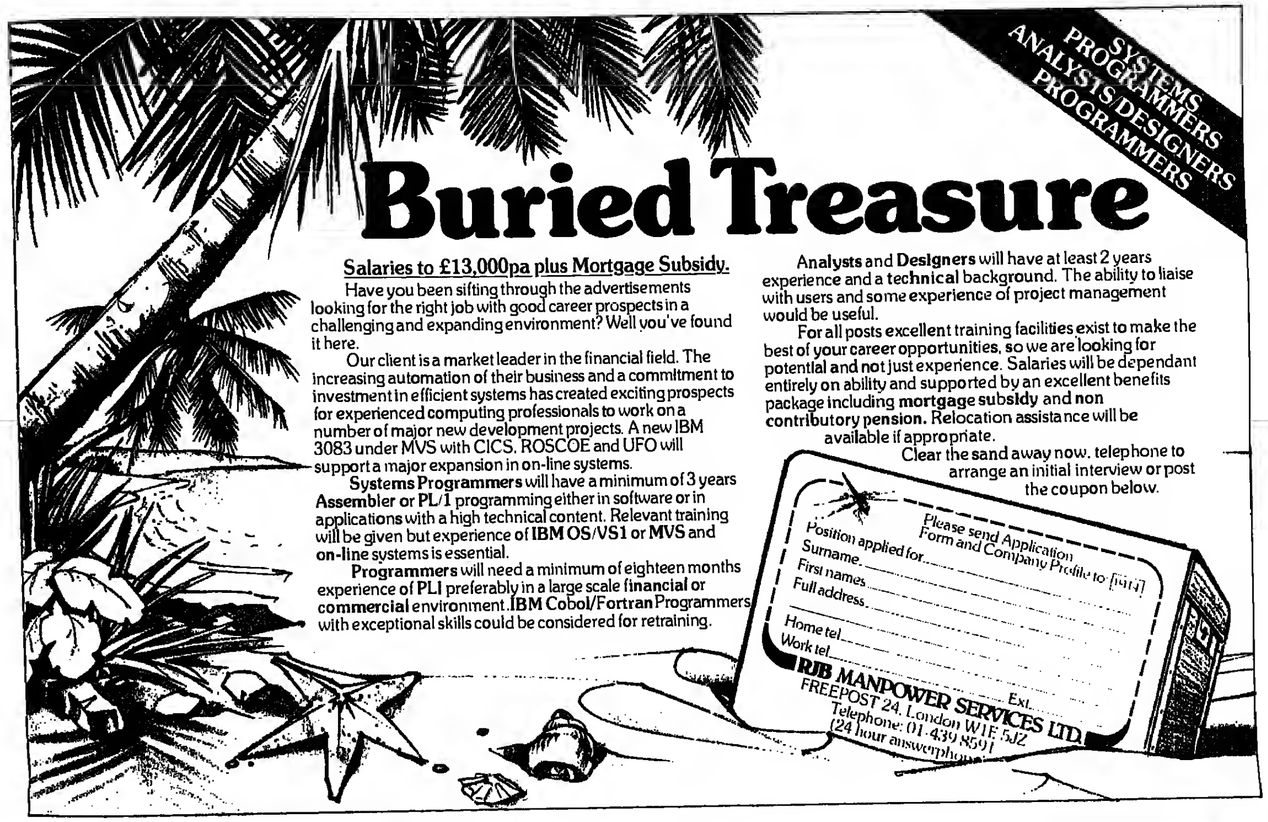

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Our client is a market leader in the financial field. The increasing automation of their business and a commitment to investment in efficient systems has created exciting prospects for experienced computing professionals to work on a number of major new development projects. A new IBM 3083 under MVS with CICS, ROSCOE and UFO will support a major expansion in on-line systems.

Systems Programmers will have a minimum of 3 years **Assembler or PL/1** programming either in software or in applications with a high technical content. Relevant training will be given but experience of **IBM OS/VS1 or MVS** and **on-line** systems is essential.

Programmers will need a minimum of eighteen months experience of **PL1** preferably in a large scale **financial or commercial** environment. **IBM Cobol/Fortran** Programmers with exceptional skills could be considered for retraining.

Analysts and **Designers** will have at least 2 years experience and a **technical** background. The ability to liaise with users and some experience of project management would be useful.

For all posts excellent training facilities exist to make the best of your career opportunities, so we are looking for potential and not just experience. Salaries will be dependant entirely on ability and supported by an excellent benefits package including **mortgage subsidy** and **non contributory pension.** Relocation assistance will be available if appropriate.

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LOGSYS Advanced Systems provides systems design, programming, and project implementation services to the industrial and scientific and defence community. Most projects are real-time mini or micro computer systems with a relatively large or complex software content. Our services are provided by high calibre software staff, about half of whom work on site at client's premises, whilst the others are based at our research and development centre which is shortly moving into new premises in Wokingham.

As a result of the high demand for our services we now need the following additional staff:–

VAX SYSTEMS PROGRAMMERS (2) to £14,000

1 position in Portsmouth, 1 in Farnborough, Hants. VMS, FORTRAN, CORAL and MACRO essential. Database experience and RSX an advantage.

PROGRAMMERS/SOFTWARE ENGINEERS (6) to £13,000

Portsmouth. Design and development of state-of-the-art real-time Defence systems. CORAL essential, MASCOT desirable.

COMMUNICATIONS SPECIALIST (1) to £14,000

Wokingham. TELETEX, X25, Local Area Network, PASCAL, 16-bit micro and Assembler experience desirable.

The company is continually in the forefront of advanced technology and development, and flexibility and the ability to respond to rapidly changing technology is an important factor in the success of this prestigious operation. Our projects have included interactive graphics, display systems, navigational trainers, simulation and modelling, process control and automation, expert systems, command and control systems and system software.

LOGSYS Business Systems, an associate company to Logsys Advanced Systems, produces specialist applications programs and packages for commercial users, particularly Insurance and Reinsurance Brokers, and Advertising Agencies. Early in 1984 we shall be moving to brand new offices in Wokingham, which will also house our VAX, PDP11 and WANG computers. We have other offices in London and New York.

As a direct result of the popularity of our business systems we now urgently require the following additional staff:–

ANALYST/PROGRAMMERS (2) to £12,000

Wokingham based, probably 2 days in London per week. A minimum of 2 years experience in insurance, reinsurance, commercial or financial systems. Previous Hardware is largely irrelevant.

PROGRAMMERS (3) to £10,000

Wokingham. 2 years commercial experience using either COBOL, BASIC PLUS or BASIC PLUS TWO essential.

Our staff are expected to produce robust and effective systems, on time and to pre-defined standards. Senior staff are required to travel to client sites as necessary, and therefore must be of smart appearance.

****

If you enjoy working in a challenging, changing and growing organisation, where management are responsive, and where you can influence decisions and grow with the Company, then you will enjoy LOGSYS. Working conditions are excellent and there are regular salary reviews and useful fringe benefits.

LOGSYS

To apply for one of these positions or to obtain more information, either telephone, write or send your resumé to Clive Williamson, LOGSYS, 72 Kingsley Road, Northampton NN2 7BL. Telephone 0604 711209, 9 a.m. to 9 p.m. any day including week-ends.

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If you have two or three years' programming experience, preferably – but not necessarily – on large IBM or ICL machines, consider the advantages of a career move to a leading software house.
P-E Computer Services is the software arm of P-E International, an independent British consulting group which has worked for more than 5,000 clients in over 50 countries since its foundation in 1934.

A career with P-E can offer you:

- ☆ the opportunity to gain experience on a wide variety of hardware and software
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Our package includes:

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If you have the flair, talent and personality to succeed in the exciting and competitive software services industry, please write to me now enclosing a full and detailed c.v. or telephone for an application form quoting ref: GM/1/73.
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The P-E Consulting Group

REAL-TIME SOFTWARE ENGINEERS
advanced data communications

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UP TO £16,000pa

Our Data Communications Division has interesting projects in S.P.C. switching systems involving the latest CCITT signalling protocols, new teletex conversion facilities and software sub-systems to control exchange configuration and management reporting systems. Some 200 engineering staff are currently employed.

Significant and maintained growth into the late 1980's is projected as a result of our successful market penetration in both public and private sectors. This has created exceptional career opportunities for real-time engineering software professionals.

MANAGEMENT

Software Team Managers
To specify systems, contribute to new design concepts, manage software teams and provide technical advice to sales.

Configuration Control Manager
Applicants for this challenging post must have several years experience of real-time software engineering in a large systems environment.

DESIGN

Real-time software designers to analyse complex operational requirements, functional decomposition of software sub-systems down to module level, and write detailed software requirements and design specifications.

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The work includes the design and development of diagnostic software associated with computer and communications hardware. Both hardware and software skills will be required.

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The work provides an opportunity to specialise in this interesting area where constant up dating of software facilities is carried out.

We would like to hear from professionals with a good background in real-time software on mini computer systems, particularly those with real-time ASSEMBLER. Experience in communications, operating systems or process control environments would be an advantage.

There is a most stimulating small team professional environment at Poole. Competitive salaries will be negotiated and full relocation costs will be met to this superb coastal area.

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Alternatively, write with full details of qualifications and experience quoting reference CW/P/818 to:- Glyn Griffiths, Plessey Controls Ltd., Sopers Lane, Poole, Dorset BH17 7ER

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Communications Consultants
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Our client is a growing and very exclusive consultancy specialising in advanced telecommunications and electronic office systems. Their assignments are in both public and private sectors and include the top organisations in finance, oil, electronics, manufacturing, public utilities and Government.

They provide a totally comprehensive service on the full range of Information Technology from strategic studies to installation and their policy of employing only the very best specialists as consultants has secured them a highly prestigious reputation within the industry and amongst their clients.

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The company encourages individual responsibility at all levels and the informal structure allows all consultants access to Directors at any time.

Applicants will work in London or the Home Counties with opportunities to participate in European assignments, and must have a strong background in the evaluation and installation of PABX systems.

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Institute of Personnel Management
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Atlas Copco

Atlas Copco (GB) Limited of Hemel Hempstead are part of a Swedish multi-national organisation. The company is involved in the development, manufacture and marketing of high technology products.

The UK DP centres around an IBM 4341 upgrading to 4381 under VM/CMS with OS/VS1 and an IMS database.

PROGRAMMER
Up to £9,000

The Progrmmer must have a minimum of one year's COBOL on IBM hardware. Candidates with DL/1 in a CICS or IMS based system have an advantage. You will be involved in the development of marketing and accounting systems. Further projects include office automation, WP, micro computing etc.

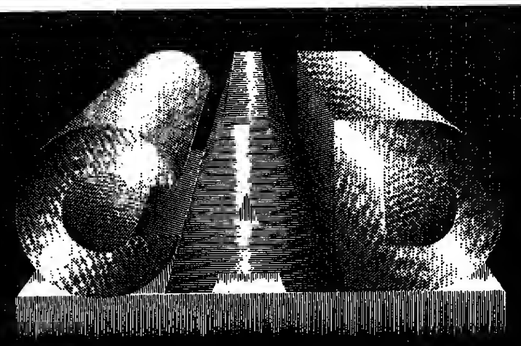
OPERATOR
c.£7,500

In operations they are seeking a self motivated Operator with the ability to progress and take responsibility. Applicants must have a minimum of one year's experience in an IBM OS/VS or MVS site. You will be working in a two man, two shift pattern, eight hours per shift.

For further details please phone or write to Chris Chehade:

Howlett Computer Services
FREEPOST
Leighton Buzzard
Beds LU7 7BR
Tel: 0525 382555
029 672 221 (evenings/weekends)

171380



A Work of Art?

Our client is an acknowledged leader in the field of semiconductor technology, and with 40% annual growth they are the fastest growing IC company in the UK.

Serving telecommunications and defence industries they specialise in custom design and special LSI/VLSI devices for which significant developments have been made in CAD and automatic layout technology.

They are committed to a policy of continual investment in people, equipment, facilities and research to ensure that they retain the lead in software technology, bringing the user more powerful and cost effective aids to I.C. design, analysis and layout. This ongoing strategy has created the openings for additional professional engineers who will provide circuit design expertise, device layout and optimisation tools, systems design and integrity and application and test procedure knowledge.

SENIOR SOFTWARE ENGINEERS £12,000 – £16,000
Logic Simulation

Working within our logic simulation group responsibilities will include writing comprehensive cell libraries and integrating simulation into the overall design and layout environment.

Applicants should have a sound knowledge of digital electronic engineering ideally in an I.C. or PCB environment, together with a degree or equivalent in Electronic engineering, Computer Science or related subject.

SENIOR SOFTWARE ENGINEERS £12,000 – £16,000
I.C. Layout Techniques

Leading the layout group the primary objective will be to write software which will allow I.C's to be designed entirely using CAD. A degree or equivalent in electronic engineering, computer science or related subject is essential and a background in electronic design would be an added advantage.

The INSTALLATION currently consists of a network of two VAX 11/780 s running under VMS plus two Applic Graphics Systems under RSX and is to be expanded in 1984. Languages are FORTRAN and PASCAL and there are plan to move to the UNIX operating system.

Highly attractive salaries plus relocation assistance are offered together with other major benefits.

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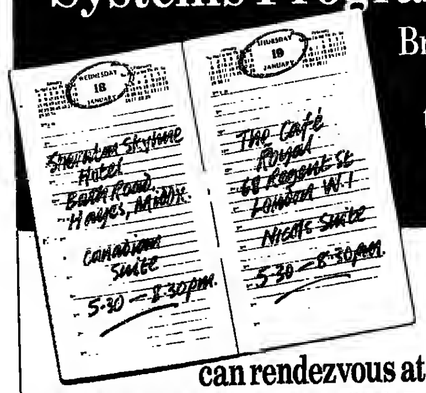
Systems Programmers



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Take a trip down to Heathrow next Wednesday evening and your earning potential and career prospects could take off in a very big way. British Telecom are booking into the Sheraton Skyline Hotel and we're inviting Systems Programmers to drop by, meet the team and discuss the prospect of earning over £14,000.

But what if you can't make it? No problem. We're offering you the option of getting together with us at the famous Café Royal – in the heart of London's West End – the very next night. In other words, we're doubling your chances of a dramatic rise.

Why are we going to so much trouble? Well, the simple answer is that BT are in the grips of a major expansion drive. To prove the point, we're adding over a dozen Systems Programmers to our very talented team, here in Harmondsworth, near Heathrow Airport. You could be one of them!

Senior IBM Systems Programmers are now needed for key supervisory roles. When we tell you that our hardware includes over forty 4300 machines and 3081, 3083 and 3033 systems, you begin to appreciate the scale of our challenge. And when we reveal that we're operating with MVS, JES2, VM/HPO, VM/CMS, DOS/VSE, SSX, CICS, IDMS, ACF/VTAM and TSO/SPF, you can see that we talk the language of sophistication. That's why we're insisting on at least 3 years' IBM experience – preferably at supervisory level – plus the confidence and strength of personality to lead by example. If advanced software is your speciality, there are over 14,000 good reasons for spending an evening in the company of British Telecom.

IBM Systems Programmers are also in heavy demand. With as little as 18 months' experience (including familiarity with some of the above software), you could qualify for over £12,000. The intellectual scope and stimulation are waiting for those with genuine ability and ambition.

So make a date with British Telecom – ring Gill Hunt rightaway on FREEFONE 2797. Alternatively, you can dial us direct on 01-432 9288. If you really can't make either of the dates but would like to put yourself in the running for a big rise, ring today or write to us FREEPOST at:
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Tenter House, 45 Moorfields, London EC2Y 9TH.

Data Processing Executive British Telecom

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INTEL is an acknowledged leader in microprocessor and associated systems technology.

Over the past decade we have achieved many of the firsts in our industry, establishing the microprocessor as the corner-stone of the current revolution in computing technology both at hardware and software levels.

In line with our rapid growth and continued objective to provide the highest standards of sales and technical support, we are looking for additional sales and technical staff qualified to degree or equivalent levels in electronics or computing studies to join in our success.

We need:

FIELD SALES ENGINEERS –
Experienced in component or system sales

In addition, we have vacancies for:

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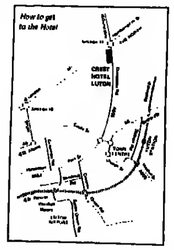
A stepping stone to field sales

FIELD APPLICATIONS ENGINEERS –
Experienced engineers to assist in pre-sales activity with our customers

SYSTEMS ENGINEERS –
To provide post sales hardware and software support at all levels of expertise, particularly in database management and operating systems



For an informal discussion on the opportunities at **INTEL,** come along to our open recruiting event at **THE CREST HOTEL, LUTON** on **THURSDAY JANUARY 19** between 2.00 pm and 9.00 pm. Alternatively, contact Ray Withey, Personnel Manager, at our Swindon UK Headquarters, giving details of your career to date.

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Fed up with the commuting rat race?

Work in Windsor

Our client, world leading manufacturers of micro-based office automation and word processing equipment, wish to expand their development team during the evolution of an exciting new range of products.

Successful applicants are likely to be aged between 25 and 35 with a minimum of two years' relevant experience.

The company's Systems Division, which is responsible for applications and communications programming for a world-wide market, situated in the pleasant surrounds of Windsor, offers excellent working conditions in an informal yet highly professional team environment.

The competitive level of remuneration includes generous salary and bonus scheme, and a first class benefits package including pension plan, life cover and medical insurance.

Communications Programmers/ Development Programmers (four vacancies) to £13,000 pa plus company car.

A sound assembler background or exposure to a block structured language (eg PASCAL), gained from a real-time systems environment is required for developing Office Automation, Word Processing, Communications, Electronic Mail, Electronic Filing, Compilers, Interpreters and Operating Systems.

Product Support Specialist to £10,000 pa

This position involves the evolution, development and testing of new and existing programs, in addition to promotional and post-sales support. Whilst experience and versatility are important, the successful applicant must be willing to gain a detailed knowledge of the company's products and to specialise within the group's activities.

Technical Writer to £9,500 pa

Due to the increasing number of development projects, an additional writer is required by the technical publishing group with the Division.

The job entails liaising with programmers on specific projects with a view to providing accurate and readable User and Support documentation.

Please apply with curriculum vitae or telephone George Shaw on 01-549-9236 (24 hour answering service) for an application form.

Sloangate Recruitment Advertising Limited
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Our investment in communications will...

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We are currently involved in several of the most interesting telecommunications projects of the future which must inevitably evolve into fully integrated information delivery systems optimised for both voice and data. Among these STC's new digital telephone switching system, already of proven international performance, is now undergoing extensive UK software design, development and adaptive engineering.

While the course of the Information Revolution can be defined in broad contours, it cannot be predicted in detail. Whatever predictions are made today are bound to be overtaken by accelerating technology and shifting demand. What is predictable however, is the need for a number of key men and women to join us in a variety of functions:

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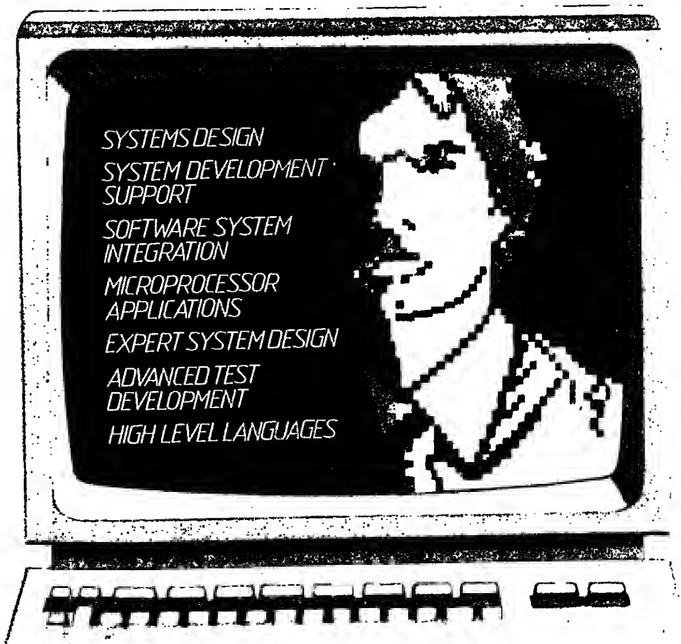

SYSTEMS DESIGN
Team Leaders — Systems Engineers
SYSTEM DEVELOPMENT SUPPORT
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SOFTWARE SYSTEM INTEGRATION
Team Leaders — Database Administrators — Software System Builders
MICROPROCESSOR APPLICATIONS
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EXPERT SYSTEM DESIGN
Section Head — Knowledge Engineers
ADVANCED TEST DEVELOPMENT
Senior Engineers — Hardware/Software

In all cases, we are looking for ambitious and committed Engineers who are qualified to Degree level or equivalent and can add to the depth of experience within our existing professional teams.

This is your opportunity to make a major contribution to projects capable of transforming the field of voice and data communications. In consequence, we are offering salary packages designed to attract the best people. Generous assistance with relocation expenses is available as appropriate.

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Take the most important step in your career by telephoning us on 01-368 1234 and asking for Vaughan Hartridge on ext. 2215 or Roger Edmonds-Brown on ext. 2579.

Alternatively, phone Vaughan Hartridge on St. Albans (0727) 60043 or Roger Edmonds-Brown on 01-361 2931 on any weekday evening (between 8-10pm) or Saturday or Sunday morning. If you prefer, write with full details of your experience to: Vaughan Hartridge, The Recruitment Centre, STC Telecommunications Limited, Oakleigh Road South, New Southgate, London N11 1HB.

Developing tomorrow's communications technology

STC TELECOMMUNICATIONS

£12,400

Computer Instructors

British Aerospace has vacancies in Saudi Arabia for experienced Computer Instructors to join its staff at the Technical Studies Institute at Dhahran, where they will be responsible for training Saudi personnel in the programming and operation of modern computer systems.

If you have the qualifications and background of experience set out below, you could earn at least £15,831 in your first year, £16,581 in your second year *tax-free*, as a Computer Instructor...

...working in *Saudi Arabia* with BRITISH AEROSPACE

Responsibilities include providing students with a thorough grasp of the principles of computer programming and operations and preparing computer systems programme routines and procedures. Successful applicants will be required to give instruction in Cobol, machine coding, test routines and programme verification; operation of computer equipment and peripherals; and processing and control of data flow.

Applicants should have graduated from an appropriate civil or military Technical Training Institute, having gained HNC or equivalent in Engineering, Computer Sciences or Mathematics. They should be able to show at least 3 years' recent programming experience relevant to the Hewlett-Packard HP3000-44 computer installation which is the current equipment, using Cobol and Interactive Data Processing. Candidates must be familiar with modern computer-based training techniques and must have gained at least two years' experience as instructors in the past five years.

In addition to the high *tax-free* salary, successful applicants will receive free accommodation, messing, medical care and other benefits, including travel-paid UK leave.

Please apply in writing giving brief details of appropriate experience or telephone Preston 634317.

The Personnel Officer, Saudi Arabia Support Dept., 001/CW FREEPOST, British Aerospace Aircraft Group, Warton Division, Warton Aerodrome, Preston, Lancs. PR4 1LA.

17052

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Project Leaders

Successful applicants will initially assist in the development of this strategy and then participate in detail system design and implementation. To meet the demanding standards required you will need 7 to 10 years experience in Project Management and have worked with both mainframes and minis. You will also require good communication skills and the ability to work at all levels of management. Experience in the oil industry is obviously essential.

BENEFITS

Family status based in Benghazi with fully furnished accommodation and services provided at company cost: A generous negotiable salary (to be discussed at interview) 90% of which is fully remissable: 28 days annual vacation to point of origin with paid air fares for employee and dependants: Special interim leave to Athens also with paid air fares: Relocation allowances.

We invite you to submit your resume and you will be sent an obligatory application form to fill. You should quote the job reference number on all communications.

You need not apply if you lack the qualifications advertised. Any irrelevant applications will not be answered.

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Recruitment Co-ordinator, Job Ref. AG/11. 33 Cavendish Square, London W1M 9HF.

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DATA PROCESSING MANAGER

c£12,500 plus car plus benefits

To manage and control a small but effective D.P. department. Work will consist of maintaining the hardware operation of existing D.P. systems and providing a service to a multi-site facility in order that existing programmes may be amended where applicable. Further investigation of company systems will be required to consider practicality of computerisation and the recommendation of procedural alterations prior to implementation of EDP.

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Responding to the D.P. Manager but working with a low level supervision in RPL language. Work consists of system design, preparation and program specification including writing, testing and maintaining programmes on site.

This is a unique opportunity to join a large progressive company who is a market leader in its field.

The D.P. department is modern with new equipment (CMC Reality) and offers a challenging and extremely interesting opportunity, on a multi-sited facility. Full training in RPL will be given where necessary.

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To apply in the first instance please telephone for an application form to: The Personnel Department, Project Office Furniture Ltd., Hamlet Green, Haverhill, Suffolk, CB9 8QJ Telephone: (0440) 705411

THIS IS AN EQUAL OPPORTUNITY COMPANY

17(09)

PROJECT

Libra
COMPUTER SYSTEMS

SYSTEMS ANALYSTS

Circa £11 – 14K p.a. plus car

ESSEX

The Job
To work on the production and installation of software and turnkey systems specifically developed for the publishing industry. Duties will include client liaison, production of proposals, analysis and systems development from feasibility to implementation.

The Company
Libra have an excellent reputation for the quality of their systems and a progressive growth record throughout their five year history. The current recruitment campaign is part of a planned expansion during 1984 both in the Uk and their new USA subsidiary.

The Requirement
It is imperative that candidates should have had experience of implementing at least one major system from start to finish. In addition they should have a flexible approach to their work, an outgoing personality and the necessary commercial awareness to understand client requirements fully. Previous experience of either the publishing industry and/or DEC equipment would be an asset but is not regarded as essential.

The Rewards
The successful candidates will be encouraged to develop their careers and skills in a challenging and stimulating environment. The starting salary will be in the region of £11,000 to £14,000 p.a. and a company car is provided.

Location
Libra are currently based in Billericay, Essex but are in the process of negotiating for larger offices in Chelmsford. This obviously presents a good opportunity for someone who is currently commuting into London to be based nearer to home. There may be opportunities to travel to the USA.

Further Information
In the first instance please contact Chris Morrow of Total Selection who have been retained to advise on the appointments.

TOTAL SELECTION LIMITED
388 CITY ROAD LONDON EC1V 2QA
01-837 0451

(7139)

Programming Team Leader

IBM environment

Package to
£13,500

West Yorkshire

Our client is a profitable UK owned retail and finance organisation with a turnover of £100 million which is served by a Central Management Service function based in Leeds. The installed equipment includes a 4 mega-byte IBM 3031 and an 8 mega-byte IBM 4341/2 running under VM/SP with DOS/VSE, CICS and TOTAL, supporting a national on-line communications network. A planned migration to MVS will commence in the near future.

Senior management is committed to major new developments in support of several areas including Distribution and Merchandising, Finance and Credit Card, Electronic POS and Personal Computing.

The successful candidate will be responsible for a team of programmers and should have some knowledge of fourth generation languages and modern program development aids. Ideally, you should have at least 5 years' programming experience and now be seeking a management appointment in which comprehensive training will be provided. Of paramount importance however, will be the applicant's knowledge of the IBM programming environment including COBOL and CICS etc. An appreciation of TOTAL and MANTIS would prove advantageous.

A generous remuneration package together with the usual big company benefits is offered for this significant career opportunity. Relocation expenses will be reimbursed where appropriate.

To apply, please write or telephone for an application form to John Mercer, at the address below, quoting reference NG 86. Applications, which will be treated in the strictest confidence, are invited from either sex.

17184

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IBM MANTIS Progs.	PH 159
IBM PL1 IMS DB ADF	DB 224
IBM PL1 with Databsse Progs.	CW 253
IBM COBOL IMS with ADF	PH/DL 101
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ICL 2900 VMEB Systema Prog.	DB 250
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ICL VMEB Anelyst	PH 216
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UNIVAC 1100 COBDL Analyst/Progs. URGENTI	SC 154
VAX Systel COBOL Prog.	DB 229
VAX VMS COBOL with DATATRIEVE	DB 202
VAX VMS with GRAPHICS	SC 254
Z80 Micro with Assambler & Talscoms	DB 221

Contact: STEVE CASEY, PETER HOLLIDAY, CHRIS WHETHERLY, DAVE LONKHURST, KEITH POOLE, DAVID BROWN, KEN COTTOM, SANDRA CAREY, EILEEN CARMICHAEL or HELEN HEARNE

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It is rarely that you find employers who are committed to providing a solid internal training environment in order to develop the technical and personal maturity of their staff.

We believe that our clients offer such an environment and would be pleased to discuss current opportunities in the following areas.

ANALYST PROGRAMMER	— TO £11,000 p.a.
SENIOR PROGRAMMER	
PROGRAMMER	— TO £ 9,000 p.a.

We would be particularly interested in hearing from candidates with an IBM Cobol or PL1 background although it should be stressed that our clients will happily consider personnel from any commercial environment.

The positions are based in the City of London with excellent travel facilities nearby.

For further information about these outstanding opportunities please contact Chris Morrow on 01-837 0451.

TOTAL SELECTION LIMITED
388, City Road, London EC1V 2QA

01-837 0451

The Hunterskil Group of Companies

HUNTERSKIL SOUTH | H. Programming & Systems | Knight | HUNTERSKIL Hunterskil International Limited

The Hunterskil Group provides essential computer skills across Operations and Systems/Programming to installations throughout the UK and Overseas. Contract and Permanent opportunities exist throughout our Group and the following are some of the immediate contract requirements at Knight Computer Services and Hunterskil South.

CONTRACTS

Systems and Programming

- **ICL 2900 VME Programmers and Analysts** with TPMS and IDMS experience. £400 to £500 per week depending on experience.
- **ICL 2900 VME Technical Support personnel** preferably with IDMS/TPMS and BASE experience £500 per week. Start immediately.

We are always keen to hear from people with the above experience.

- **PRIME Analyst with on-line experience for 6 months assignment.** £500 per week.
- **VAX, VMS, DBMS Programmer** for 6 months contract start immediately. £425.00 per week.
- **Honeywell COBOL Screenwrite programmers.** £420.00 per week.
- **QUERY/FOCUS** 2 years implementation experience for 1 to 2 year contracts. £500+ per week.
- **CINCOM MRPS Programmer** £430 + per week.

Operations

- **DOSVSE/VM POWER CICS** long-term contract. 2 years + operating experience. £185.00 per week.
- **MVS/JES2 Senior Operators** with IMS experience. £234.00 per week.
- **HP3000 MPE/4 Operator** for forthcoming requirement. £200.00 per week.
- **IBM System 38 Operator.** Inclusive of expenses £240.00 per week.
- **PRIMOS Operator.** 18 months experience. £225.00 per week.
- **ICL 2900 VME Operators.** No night shifts. 3 months, DME experience an advantage. £240.00 per week.

Call Nick Gill or Les Probert

HUNTERSKIL SOUTH Specialist Computer Staff
Chatsworth House, The Broadway, Maidenhead, Berks. SL6 1LY

(0628) 75551

D of E Reg No SE7398

CONTRACTS

Systems and Programming

PL/1 Opportunities – MVS
We have a number of positions for PL1 + DL1 programmers for 3-6 month contracts and PL1 + CICS programmers for 6-12 month contracts. All the projects are on financial applications and will be based at our Customer in Middlesex. Ref: K1347

ICL 2900 VME COBOL – Some positions with IDMS/TPMS	Ref: P1258
DEC VAX 11/750, VMS, BASIC V.2 (ess), DATATRIEVE – Beds	Ref: E1343
DECNET – Communications System Designer – Hants	Ref: E1354
MUMPS Programmer and Systems Programmer – Germany/Switzerland	Ref: E1294
Process Control Real Time – Long term a.s.a.p. – Herts	Ref: S1110
IBM 4341 IMS DBDC support – 3 months extendable – Beds	Ref: K1348
ICL S25 or ICL DRS all levels + all areas	Ref: S1333
HP3000 COBOL with HP Software Package exp – Brussels	Ref: P1307
IBM DOS/VSE Systems Prog, 2 yrs CICS/VS (Perf. Mon. VM/CMS DL1 useful) 6 months +, BRUNEI.	Ref R1351

Evenings and weekends contact Richard Kaluzynski on 01-840 1169

Operations

CASE DCX MULTIPLEXORS & MODEMS – Network Person for immediate 1 year contract in S E London	Ref: LF12
ICL G III/VME Operators to start in near future on long term assignment in E. London.	Ref: LF13
IBM 4341 VM-CMS DOS/VSE CICS – Senior Operators to start now for 4 month contract.	Ref: LF14
ICL ME29 TME IDMS – Networking and operating for indef. period to start in near future. Location Holland.	Ref: LF15.
ICL 2904 EXEC 3S – Operators to work on conversion in **Middlesex** for indef. period, starting end Jan. – begin Feb.	Ref: LF16

Call 01-491 4706 quoting appropriate Ref.

Knight Computer Services Limited Specialist Computer Staff
14 Old Park Lane London W1Y 4NL

01-491 4706

D of E Reg No SE(A) 1014

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Computer Software
Altergo Products Division

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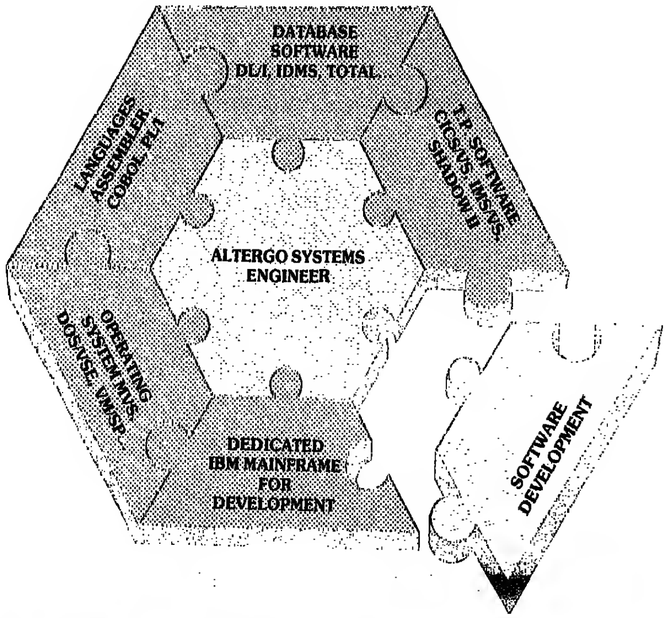
Systems Engineers to £16,200
Aylesbury and Stafford



BECOME THE COMPLETE IBM SYSTEMS PROGRAMMER

The development of software products for IBM mainframes offers the systems programmer the opportunity to exercise their creative/design skills and sharpen their technical knowledge through exposure to the full range of systems software available in this marketplace.

Altergo Products is the IBM systems software development arm of Thorn EMI Information Technology Division. This Division covers a wide spread of activities in advanced hardware and software development and its' companies include Software Sciences, Datasolve and Datatech. A considerable part of the investment plans of Thorn EMI are being directed towards the Information Technology Division and this has resulted in a major expansion of the Altergo Products development centres at Aylesbury and Stafford.

Successful applicants will work on both the creation of new 'state of the art' 4th generation products for both IBM mainframes and P.C.'s, and the enhancement of existing products. These products cover areas such as t.p. monitors, program development tools, systems efficiency aids, user query systems etc.

Development staff will enjoy the use of a dedicated IBM mainframe computer and work with other high calibre software specialists in a stimulating team environment where the common objective is technical excellence.

Adaptability and creativity are the key qualities we need for positions which will introduce you to every aspect of the software business. Applicants must have Assembler experience in an IBM (OS or DOS) mainframe environment and specific experience should include one or more of the following:-

- **DOS or OS systems programming or teleprocessing systems support**
- **CICS/VS, IMS/VS, or SHADOW II**
- **DL/I, TOTAL or IDMS**
- **COBOL or PL/I**
- **Telecommunications with BTAM, TCAM or VTAM.**

In return for these skills you will be provided with a unique opportunity to become the complete IBM Systems Programmer conversant with the full range of systems software for IBM mainframes.

Altergo Products continuing commitment to research and development together with the substantial backing of Thorn EMI ensures that career prospects will be excellent and could be into management, product marketing, or technical/sales support.

In addition to an excellent salary, you can expect all the benefits of a major organisation including generous relocation assistance making the overall package extremely attractive.

For further details please telephone Andrew Cousins on 0734 595346 at our Reading office or write enclosing a full c.v. to the address below.

Interviews will be held in London, Reading, Aylesbury or Stafford.

MCL

McCOURT COUSINS LTD.
Computer Recruitment Consultancy

27-29 Greyfriars Road
Reading, Berkshire
Telephone (0734) 595346 (24 hours)

Chesham House, 150 Regent Street,
London W1R 5FA
Telephone 01-439 6288

SENIOR SYSTEMS OPPORTUNITIES

Our Client, Universel (CMS) Ltd., is e smell but well-esteblished Software House with teems specielising in the clothing end textile industry end wine end spirits industry. Due to increased demend for their services they now require edditional senior DP professionels to join them et both their Windsor end Leicester besed offices.

SYSTEMS SUPPORT ANALYST c.£13,000 + CAR

The essentiel quelity for this position is the ebility to support existing instellations end new sites in both e formel trsining role end informel eupport role. Applicents should have experience of presenting treining progremmes and providing a high level of documentetion for courses and customer support. Any exposure to Burroughs smell system would be of benefit.

SYSTEMS ANALYSTS to £15,000 + CAR

Candidetes should have e sound DP background with experience of designing commerciel real time eystems on mini or microcomputers. They must aleo have seen et leest one project through from feesibility study to full systems implementetion. As there will be a good deel of customer contect and support, eppllcents must be professionel in both appeerence end ettitude.

The Company has now reeched e cruciel stege with its plenned expension end is dedicated to recruit the right individuele to join their young end dynemic teeme. If you cen meet the above requirements snd would enjoy working in e challenging end rewerding environment, contect Mike Hermer at Apex 01-404 4821 or Terry Forsey et Universel (CMS) Ltd. Windeor (07535) 54587 for further deteile.

(7160)

404 4821
Apex
Apex Computer Recruitment Ltd.
London Office: 59 Grays Inn Road, London WC1X 8TL. Tel. 01-404 4821
Brussels Office: Rue Guimard, 24 Ucclo 1180 Brussels. Tel (010) 322 377 4193

Cobol Programmer £6·5-7k
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Opportunities in the Record business are exciting and rewarding – after all, it's one of the most dynamic industries in the world. Right now, you'll be pleased to hear, you have the chance to share that scope by making a key contribution to our success at RCA.

Data Processing has a vital role to play in our activities, supporting a highly complex national operation. At our installation in West Bromwich, we are primed to provide this expertise. Here we operate 3 D.G. MV8000s and 2 PDP 11/34s which will shortly be linked to our IBM 3081 in Sunbury, Middlesex, with online batch and database systems meeting applications as diverse as accounts, video rentals, order processing and royalties.

If you're young, bright and determined, becoming part of our programming team is an excellent career move. You'll have a visible role to play, some outstanding facilities and real potential for development.

Bring us at least 18 months recent D.G. or IBM COBOL programming experience and there's also a generous remuneration package to look forward to.

If you like the sound of our prospects, telephone Loraine Dimmock, on 021-525 6888 for an application form.

RCA
Technology · Entertainment · Communications

CICS Systems Programmer

Home Counties **c. £2250/month**

We are seeking a Systems Programmer with good knowledge of CICS externals (tables, etc.) and preferably sufficient knowledge of CICS internals to carry out debugging and troubleshooting duties. The successful applicant could have either OS or DOS experience, and will undertake site responsibility for CICS software on the client's DOS/VSE system. Tasks will include day to day maintenance, problem determination, upgrading from Rel. 1.5 to 1.6 and support to application programming teams. The assignment is initially for 3–6 months, with the possibility of extensions.

T 0G8

MVS & ACF/VTAM Support

Holland **c.£2500/month**

We require 2 Systems Programmers to join a team working in a pleasant part of the Netherlands. The installation comprises a multi-cpu production configuration running MVS SP 1.3 with JES2, TSO/SPF, VSPC, CICS and ACF/VTAM/NCP Rel. 3, plus a test machine running VM/CMS. One person will be responsible primarily for MVS support, the other for the network, with duties including generation, maintenance, tuning and debugging. Applicants should have upwards of 3 years experience in a similar software environment to the above. Both assignments are open ended with an initial commitment of 6 months.

BO38

MVS Systems Programmer

Home Counties **c.£2350/month**

We need an additional Systems Programmer to join our Client's system support team on a 6 monthly renewable contract basis. The current configuration consists of multiple 4341's running MVS/SP1.3, JES2, CICS, IMS DB, RACF and a variety of other Program Products. A major CPU upgrade is planned for early in 1984. Applicants should have as a minimum, a good basic grounding in MVS, together with knowledge of at least one of the other products above. The successful candidate will start the assignment in December or January.

J062

CDS is an Anglo-Swiss Consultancy specialising in systems programming and DB/DC application development. For further details of the above positions or for an informal discussion on future long-term or UK assignments please contact Mike Shaw at our UK offices Tel: 0276 68126 or through our answering service on 0276 68126 during evening/weekends.

Telex 858062 CDS Limited, 19A Park Street, Camberley, Surrey GU15 3PQ.

cds **IBM Systems Programming and DB/DC Specialists**

(7180)

BANKING

Positions

Senior Systems Analysts
to £17,500 + benefits

Senior Analyst/Programmers
to £16,000 + benefits

Systems Analysts
to £15,000 + benefits

Analyst/Programmers
to £13,500 + benefits

Environments

IBM 30nn, IMS, PL/1
or
IBM 30nn, CICS, COBOL
or
Univac 1100/80, DMS, COBOL
or
DEC PDP 11/, BASIC, Series IV

Qualifications

Sound experience of design/development in the appropriate environment or banking applications development

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- A sound career path
- The job security that comes from working with established City institutions

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Telephone Lynn Roylance for further information and to make an appointment or send you CV to the Freepost address below for immediate consideration.

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ACR

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or 01-920 0801 (24 hr)

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17239

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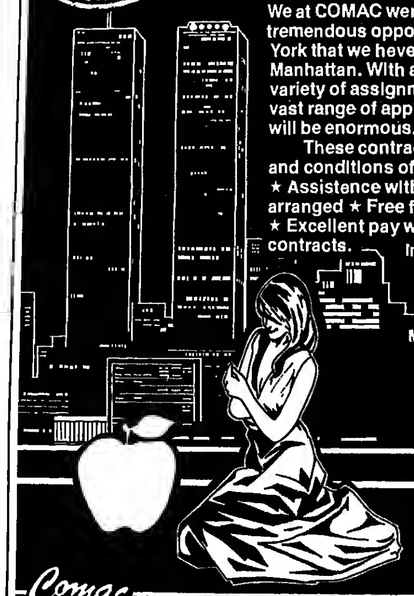

Immediate experience in the following required:
Programming
BAL, OS/COBOL, PL1
HOGAN, NOMAD
MODEL 204, RAMIS, FOCUS
INQUIRE, CULPRIT
IMS, IDMS/CICS, APL
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WANG, INTERCOMM
OASIS BASIC, DEC VAX
IMS/CICS INTERNALS
UNIX 'C'
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IBM/3600/FCL
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MIDLANDS BASED
PROGRAMMERS
ANALYST/PROGRAMMERS
£8-£12,000

Several of our clients are interested in PROGRAMMERS with two or three years' commercial experience. People with a background in any of the following languages and machines should contact our Consultants in Birmingham as soon as possible.

RPG II or III on IBM SYS 34, 36 or 38
BASIC or BASIC + on C.M.C. or
DEC PDP MINIS
COBOL or ASSEMBLER with CICS, DL/1
etc. on any IBM

People with one or two years' analysis experience in addition to a programming background on any of the above machines are also urgently needed. Exposure to General Accounting Systems, Database design, Payroll systems (e.g. UNIPAY), etc., would be a distinct advantage.

Opportunities exist within major software houses, large commercial and manufacturing organisations as well as smaller users where you would be a key member of staff. Don't delay, these positions are too good to miss. Phone for details or send your c.v. to KEAVAN YOUNG or MIKE LANYON at the Birmingham office.

TCR **Targa Computer Recruitment**
8 Liverpool Street London EC2M 7NH Telephone 01-283 9941 Telex 25651
Monaco House Bristol Street Birmingham B5 7AS Telephone 021-622 2345 Telex 334237

17211

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datascene

DART OPERATORS

From 12th **JANUARY, 1984,** the Datascene Computer Operations Division has a new name – **DART OPERATORS.** A new separate identity specialising in the Operations sector of the Computing and Information Technology market for both permanent jobs and contract requirements. Datascene will continue to provide services for Programmers, Analysts, Management & Executive personnel.

DATASCENE
01-439 7671

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PERMANENT POSITIONS

MVS Systems Programmers **£20,000**
A number of installations require competent System Programmers. Experience of SNA and/or other telecommunication systems desirable.

Systems 38 **Middlesex** **c. £14,000**
Opportunity for Analyst Programmers on a System 38 in a growing young insurance company. Experience in insurance and/or retail applications is desirable but not essential. System 38 experience is not necessary for the Systems Analyst position. R.7343

DEC VAX/POP Personnel **London & Home Counties** **£6-13,000**
A variety of positions currently exist for people with a minimum of two years' DEC experience using either BASIC, FORTRAN, COBOL or MACRO 11.

Systems Analyst **London** **£11,500-£13,500**
A progressive commercial bureau is seeking an experienced Systems Analyst to take a leading role within the organisation. A minimum of five years' DP with at least two as a Systems Analyst, with experience of either Burosu, Software House or Burroughs hardware will give the successful applicant a competitive salary and demanding but rewarding position. G.7286

Tandem Programmer **London** **£10,000**
Financial organisation based in the City wish to recruit an experienced TANDEM Programmer to work in a progressive environment as part of a newly formed team. The position carries considerable benefits and a competitive salary is offered to the right individual.

SENIOR RECRUITMENT CONSULTANT
c. £20,000+

We have an internal requirement for a Senior Consultant to handle recruitment of computing personnel.

You must have the ability and confidence to:
- Advise clients on their approach to recruitment
- Compile an analysis of the grades and experience of personnel required within staffing levels
- Present advertising alternatives
- Interview prospective candidates to present a shortlist
- Counsel both client and candidate to assist in their decision making.

We provide an excellent incentive package for the right people. Progression is available within the Company group for those wanting to progress. Call Mike Dauncey on 01-439 1856.

CONTRACT SYSTEMS & PROGRAMMING

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IBM MVS SYSTEMS PROGRAMMER
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MICROBASIC AND/OR CIS COBOL PROGRAMMERS
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London & Home Counties Computer Services Association

Opportunities for operators

PERMANENT OPERATIONS

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Two positions exist for MVS/JESII Operations Analysts both in the Home Counties with household name concerns. TSO with SPF is a distinct advantage in both cases. *£11,000*

SENIOR OPERATOR
A minimum of 18 months' OS/VS1 under VM/CMS is all this large Financial concern require to fill their Senior Operator position. An excellent opportunity with good benefits including subsidised mortgage. *£9,000*

SENIOR OPERATOR
Three years' MVS/JESII with IMS and VTAM will fill the hole in this first class Home Counties site. *£9,500*

DEPUTY SHIFT LEADER
A good step on the ladder to Operations Manager for a young yet mature MVS operator. Future plans include the installation of a large micro network. *£8,500*

SENIOR OPERATOR
Good VAX experience (at least three years), for a Central London site undergoing large expansion in its DP department. *£7,500*

DATA CENTRE MANAGER
With excellent supervisory experience on VAX equipment for this dynamic company. They are also seeking an

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Would suit an experienced shift leader looking to progress to menegement. *£NEG*

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With senior operations experience on Data General equipment for a large financial concern. Very responsible position. *£11,000*

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This is a days and eerly evenings position for someone with one year's experience on Hewlett Peckard equipment. Very good perks. *£7,000 + Lots of O/T*

COMPUTER OPERATORS CITY
Two positions exist for good VME 2900 ops with two leading stock exchange concerns. Excellent prospects and superb remuneration! *£10,000*

COMPUTER OPERATOR
Good DME and VME is required by this insurance company based in the Home Counties. Benefits include subsidised mortgage. *£NEG*

COMPUTER OPERATORS
Good GEORGE III required for this large expanding site in S. London. *£8,000*

CONTRACT OPERATIONS
Lengthy contract in London for good VME/B ops with some DME System 4 knowledge. Start March.

TWO SHIFT LEADERS
Two ME29 Service Ops on the way up are required to fill two shift leader positions at this brand new site in Brighton. *£8,000*

17169

Real Time Software Specialists

Farnborough, Hants. To £13K

Real Time Developments is an independent systems house specialising in high-quality real-time software systems. We have an immediate requirement for a number of real-time software specialists to enable us to expand in line with our plans for 1984.
The people we are looking for are preferably graduates with two or more years experience in any real-time applications. Experience should have been gained on minis or micros, with knowledge of both assembler and high-level languages.
Apart from a highly competitive salary, benefits include BUPA, health assurance and paid overtime. The company offers ample scope for genuine career advancement, with employees being encouraged to assume responsibility as soon as they are ready for it.
1984 holds great promise for RTD; why not be part of our success story? For more details contact Geoff Burnes on Farnborough (0252) 546213 or write to

Real Time Developments Ltd.,
Lynchford House, Lynchford Lane,
Farnborough, Hampshire, GU14 6JA.

The IBM SYSTEM34/36/38 Recruitment Specialists

[illegible] is an International Company providing a range of services to the petroleum industry to aid in the drilling, completion and production of oil-wells. Part of a multi-national organisation, their expertise is used in over 75 countries to locate and produce oil on and off-shore. A Research centre is now being established in Cambridge including a new IBM SYS/36 installation.

[illegible] Needs the talents of a multi-disciplined professional who would like to use their ability in developing financial and accounting systems. The successful applicant will be responsible for the day to day running of the installation within a high level research team environment. The position requires total dedication, versatility and is an exceptional opportunity to the career professional.

[illegible] Within the group both short term and long term are excellent with very good promotional prospects. Every chance will be given to develop your technical skills enabling you to advance your career.

[illegible] **Please call Richard Milsum on 01-354 1055 during office hours or on 01-958 2553 during evenings and weekends. Response will be treated with strict confidence.**

MARCH COMPUTER RECRUITMENT LTD
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Our parent company is involved in an array of high technology industries managed by a young and entrepreneurial management team committed to the groups diversification and continued success in 1984.

As part of its computer division (which in itself manufactures and markets both micro computer hardware and software) we are seeking to identify a number of high level computer sales executives with previous backgrounds in software or services to develop and manage our distributor network across the U.K.

We can offer the "real" opportunity to join a growing company which has the benefit of considerable financial investment, an excellent range of products and above all the chance to develop those "management" skills, and grow with the company. We feel our approach is unusual and our attitudes to the market flexible and refreshing within an extremely competitive industry.

If you think you fit into the above criteria and find this advertisement interesting then please do not hesitate to contact our recruitment adviser Paul Pearce on 021-643 8501 now to find out more or alternatively, mail your c.v. to him at the Birmingham address.

Sales People
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TO ADVERTISE IN JOBSPOT PHONE JAMES ITTERELL 01-587 5501

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SOFTWARE ENGINEERS
Holland, Sweden Italy
to £12,000 + Overseas allowance

SPL International is one of Europe's leading systems and software houses. The company has vacancies throughout Europe for **Software Engineers** and **Programmers** with experience in any of the following:

DEC: PDP-8, PDP-11, VAX, RMS-11, VMS RTL/2, PASCAL, FORTRAN, MOTOROLA: 6800, 68000, ASSEMBLER.

The successful applicants will be working on advanced software development projects for Real-time Control Systems, Message Switching and Defence.

JA336/1

STANLEY GIBBONS

ANALYST/ PROGRAMMER c.£10,000

Stanley Gibbons Promotions, part of the world wide Stanley Gibbons International Group, is a highly successful marketing organisation. Close to the pleasant New Forest area of Hampshire is the head office based computer department which utilises an ME29 running under TME.
The company is expanding and a vacancy now exists for an **Analyst/Programmer** with at least two years' Range Cobol ideally under TME, and some formal analysis experience or training. The successful candidate will liaise with users and be involved in several major development areas therefore the ability to communicate at all levels is essential. Stanley Gibbons offers excellent opportunities for career advancement, an attractive salary and a benefits package which will include assistance with relocation where necessary.
LOCATION: HAMPSHIRE **JA336/2**

imhof

SOFTWARE ENGINEER c.£14,000

Imhof, an international organisation, currently hold 70% of the market manufacturing and supplying electronic racks and enclosures. Our UK Head Office serves the information processing needs of the Imhof Group utilising twin PDP11/70s under RSTS and an 11/23 under RSX in-house, with PDP11s in France, Sweden and Germany.
We now need the skills and talents of a **Software Engineer** to play a vital role in our commitment to software and hardware development. Essential experience will be an in-depth knowledge of RSTS/E and the ability to carry out hardware investigations.
To the successful candidate we will offer an excellent salary and benefits package, with opportunities to develop a stable career within an expanding and successful organisation.
LOCATION: West Middlesex **JA338/3**

Confidential Reply

ANALYST/ PROGRAMMERS £10-£12,500

Established in 1964, over 50% of our client's business is in mailing management and direct mailing systems and services. Continuing development has produced the most advanced computer mailing software and systems available in the UK supported by a large and stable team representing over 30 man years of software development and mailing applications. Expansion has created vacancies for **Analyst/Programmers** with good commercial Cobol programming experience gained in an IBM DOS/VSE environment. Familiarity with VOLLIE, CICS, SELCOPY or LIBRARIAN would be helpful. Personality and communication skills are essential as client contact will form an important part of these positions. In return our client will offer excellent salaries which are negotiable according to experience and a comprehensive benefits package.
LOCATION: CITY **JA338/4**

Action..
ring or send the coupon to
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Freepost, London W5 2BR
01-567 3501
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NCR NCR Limited

PROGRAMMERS ANALYST/ PROGRAMMERS

£ negotiable

Building on a century of success NCR serves the information processing needs of a wide range of industries and businesses throughout the world. At the hub of European in-house development activity is UK Information Systems and Services, responsible for the systems, telecommunications, office automation and computer processing within NCR. Several vacancies exist for **Programmers** and **Analyst Programmers** to join a number of development projects using sophisticated on-line development tools on a variety of hardware from mainframes to personal computers. Successful candidates will be working in an advanced systems, telecommunications and office automation environment, with career prospects to assume specialist roles within ISS or the NCR marketing and support organisations.
LOCATION: N.W. LONDON **JA337/1**

MOLINS

ASSEMBLER PROGRAMMER

to £10,000 + bonus

Molins is a leader in the design, manufacture and marketing of precision machinery with a worldwide Group turnover in excess of £140 million. Hardware is based on IBM4341 and 4300's running CICS and VSAM under DOS/VSE. An **Assembler Programmer** is required to work as part of the team implementing and interfacing new manufacturing control software running on-line in a database environment. Solid experience of IBM Assembler, probably in a DOS/VSE environment, is essential. Some exposure to Cobol would be helpful. Full training will be given, if required, on IDMS and CICS. As part of a large and successful group of companies, Molins offer an attractive salary and bonus scheme, flexitime and five weeks holidays and BUPA.
LOCATION: S.E. LONDON **JA337/2**

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The Sperry workforce is dedicated to helping their customers get the very best from the hardware and software they have purchased. In Conversion and Implementation Services we provide a highly skilled technical design consultancy on data processing techniques used in applications, resystemisations or conversions. In our continued expansion we are seeking a Senior **Systems Analyst/Design Consultant**. The position requires a high degree of customer and Sperry contact and will involve responsibility in the areas of pre-sales, migration, development and implementations utilising the full range of Sperry hardware and software. This is an important and demanding position, and the successful candidate will receive a salary and benefits package, including a company car, to reflect this.
LOCATION: N.W. LONDON **JA337/3**

Confidential Reply

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A progressive international transportation company have a requirement for a **Data Base Administrator**. This is a management position and applicants should ideally be educated to degree or HND level and possess a working knowledge of Hewlett Packard's **IMAGE/3000 DATA BASE** plus one other type of data base technology. The successful applicant will be expected to be conversant with both the theoretical and practical aspects of data administration including **conseptual data modelling techniques** while at the same time having the ability to deal both effectively and diplomatically with the user fraternity. The remuneration package is excellent and includes a high salary coupled with free health insurance, concessionary travel, luncheon vouchers, a contributory pension scheme and the opportunity for business travel.
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You will need to meet all the following requirements:

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You will mainly be involved in pure consultancy, but also in project implementation and management.

This is seen as a logical career step for high-fliers who have proved themselves in a user environment and are ready to move forward to top-class consultancy.

For further information, please contact MARK IRENS quoting reference CW1201/1.

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We may well have already talked to you, but if not, we welcome an opportunity to discuss the many assignments in which we are currently working. If you are a successful sales professional, whether responsible for a territory of a Senior Sales Manager, please telephone either BOB BOWER or MARK IRENS for a brief and informal discussion. You may be surprised at the vast job potential currently available.

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c£8,500 **Bristol area**

Our Client, a major subsidiary of a multi-national Group, is in the process of developing a nationwide interactive network of Hewlett Packard 3000 minis, using CASE DCX equipment.

This has created a requirement for an additional person who, reporting to the Telecommunications Co-ordinator, will assist in the planning, installation and day to day running of the Company's telecommunications facilities.

Our Client is seeking an ambitious Telecommunications Engineer with at least six months practical involvement in data communications, and the ability to isolate problems, either personally, or by calling in the relevant engineering support.

This newly created, career position will suit someone with a practical bias and the ability to generate positive relationships with users.

This is an excellent opportunity for a young and ambitious person who enjoys variety, challenge and travel and is keen to take advantage of the excellent career prospects available within this growing and highly profitable Organisation.

A current driving licence is essential, as a company car will be available for travel to remote sites.

Starting salary is negotiable in the region of £8,500.

If you possess the necessary level of experience and are looking for an interesting future, contact **Ian Payne on 021-236 3781** for further information and application form. Alternatively, send him a brief Resume of your career to date at the Birmingham office address which is shown below.

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INTEL, PASCAL	Software Engineers	London
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Contract or permanent, we can offer you the range of positions and applications to broaden your technical expertise and enhance your career advancement into project management and beyond. We can also offer you excellent salaries plus the full range of benefits associated with a successful software house, including the opportunity to work on challenging projects throughout the UK, Europe, Middle East and possibly the USA.

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IBM 38 RPGIII PROGRAMMERS/ANALYSTS
IBM 4341 RPGII PROGRAMMER
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Acting under our Hardware Manager in the installation and testing of new HARDWARE and SOFTWARE PACKAGES both inhouse and in our clients' premises. This position may be of interest to ENGINEERS or people with an ELECTRONICS background with a desire to move closer to software development. Work is varied and TRAINING will be provided as necessary. This is a real opportunity for applicants with aptitude and some experience, preferably on DEC and or COMMUNICATIONS equipment.

Our working environment is superb with BRAND NEW PURPOSE BUILT offices in WOKING. Long term prospects are excellent and initiative and effort will be rewarded quickly with regular reviews and a policy for promotion based solely on merit.

Targa Computer Recruitment

FOR FURTHER INFORMATION contact our advising consultant, MARSHALL CLIGMAN at Targa Computer Recruitment or at home (telephone EPPING 76065).

IBM SYSTEM 38/SENIOR
CITY — TO £14,000
This could be a project leader or analyst/programmer role. Solid IBM System 38 RPG III skills required, with emphasis on analysis, design and user liaison, to develop a range of manufacturing, viewdata and accounts systems. Subsidised restaurant, free travel and health insurance. REF. C/W 4060

PL/1 ANAL/PROG — £11,500
A mature outlook, and a sound business awareness, is needed, together with your 2 years + IBM PL/1 experience. This is a new venture in an established firm and you will have plenty of opportunity for both development in a CICS environment and customer support. REF. C/W 4079

PROGS UP TO TEAM LEADER
CITY — £8-12,000
Ideally situated for Liverpool Street/Fenchurch Street Stations. This large financial organisation seeks IBM programmers at all levels. 18 months' COBOL is the minimum requirement, and any on-line or database experience would be useful. Excellent promotion prospects. Team leaders must have the ability to motivate and control staff. Bonus and lunch allowance. REF. C/W 4076

YOUR DIBOL SKILLS ARE WANTED!!! — £FIVE FIGURES!
This fast moving City based DEC/VAX site is seeking DIBOL experience at all levels. They run exciting commercial systems of a very high standard and much development work is planned for the future. You will be involved in analysis and design. Management prospects are available for the right candidate. Database exp. is also an asset. REF. A/W 4035

HEWLETT PACKARD – COBOL — TO £11,000 + RELOCATION
If you can offer a minimum of 12 months' HP 3000 COBOL exp., my client based in Kent would be interested in hearing about you. They have recently undertaken the development of a major commercial project, which will involve you in analysis, user liaison and programming. IMAGE, QUERY, VIEW, VPLUS and RAPID are desirable assets although training is available. A good salary is offered together with BUPA, free life insurance and relocation assistance. REF. A/W 4085

WANG 2200 PROGRAMMERS & CONSULTANTS — TO £15,000 + CO CAR
A genuine opportunity has arisen to become part of an exciting and challenging development in 1984 within this prosperous and well established bureau. Situated in rural Berkshire, they have requirements on 2 levels. Programmers with a minimum of 2 years' exp. on mini machines using BASIC as a language. A great deal of client liaison will be involved. Excellent career development projects. For the Consultant roles they envisage mature applicants with good financial backgrounds, technical knowledge is not essential but you will have the ability to deal with clients on all levels. Generous benefits including profit share. REF. M/W 4095

WANG VS
CITY — £10-13,000
Make 1984 the year to develop your computer skills to the full. Excellent career opening offered with this major Insurance broker, part of an international group. They have current vacancies for an analyst/programmer with systems development experience using Wang and also a COBOL programmer with a minimum of 18 months' working with interactive systems. Insurance background would be a plus but not essential. Working conditions and company benefits are excellent. REF. M/W 4073

DATA GENERAL
LONDON — £13,000
This multi-national oil exploration organisation currently invite applications from systems programmers with a sound knowledge of D.G. equipment. Familiarity with A.O.S. operating system and INFOS is essential. In return they offer an interesting and stable working environment plus a good salary, regular reviews and career path. REF. M/W 3071

ANALYST/PROGRAMMER
LONDON — TO £12,000
If you promised yourself a more interesting career for 1984, why not consider a move to this progressive and go-ahead company. As a member of this dynamic development team, you will be working on a number of new financial development packages. All I require is 2 years' + COBOL programming preferably in a financial environment with proven background. The company offer a substantial package to the right applicant. REF. E/W 4099

HONEYWELL COBOL
KENT — £8-11,000
My client is a leading insurance company, and due to major expansion plans are looking to recruit additional members of staff at "ALL LEVELS". The essential requirements are for 18 months' + HONEYWELL COBOL and/or Screenwrite experience. This is a superb opportunity to move into an extremely interesting position, which will involve substantial development work, and excellent promotion prospects. Package includes subsidised mortgage. REF. E/W 4098

JUNIOR ICL ME29 COBOL
BERKS/SURREY — TO £7,000
A national consumer company with hundreds of retail outlets have a challenge, for an ambitious and competent programmer wishing to progress in 1984. If you have in excess of 1 year's COBOL, and exposure to either financial and/or marketing systems on an ICL ME29 with on-line and batch experience, this could be the move you are looking for. REF. E/W 4097

IBM COBOL — TO £12,000
Hertfordshire based company urgently require a programmer with 1 year's IBM COBOL and RAMIS experience. The ideal candidate will be looking to take on a responsible role and get involved with major financial systems. The company house an IBM 4331 running under DOS/VSE. On-line experience would be an advantage. The company offers excellent opportunities within a growth environment, and a full range of benefits. REF. G/W 6780

CICS OR DL/1?
CENTRAL LONDON — TO £12,000
Rewarding career opportunities for programmers and analyst/programmers with 12 months' + IBM COBOL experience. Ideally you would also have experience with either CICS or DL/1. The company retain an IBM 4341 under DOS/VSE but are shortly going to MVS. This is a prestigious organisation offering extensive training facilities and excellent promotion prospects! REF. G/W 2970

IBM SYSTEM 36
LONDON — TO £13,000
This multi-national organisation with offices worldwide, are seeking an analyst/programmer with a minimum of 18 months' RPG II experience gained on IBM equipment. You will be involved with a major project which is being decentralised from various offices abroad, therefore occasional European travel may be required. Interested? Then please ring me in the first instance! REF. G/W 1391

DEC/PDP BASIC + NEW SITE — £9,000
Programmers and Analyst/Programmers are sought by this new DEC/PDP site in Middlesex. A great deal of development is planned, and there are excellent prospects for advancement. They require an ambitious individual with 12 months' + DEC/PDP BASIC + expertise. Phone now for further details. REF. A/W 2954

These positions are just a brief selection from our extensive database of jobs in London and the South-East. If you cannot see a position advertised for your particular skills, or are considering re-locating or a change of hardware, a quick 'phone call will put you in touch with a consultant specialising in your field. 70% of jobs in this industry are never advertised. Why not let us tell you about some of them? We look forward to hearing from you.

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(7216)

COBOL Programmers

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Our client is an established Management Services department, in the process of developing new systems.

If you have at least one year's practical COBOL experience, preferably gained in a VME, DME or VMS environment, these positions offer you the opportunity of initial training in appropriate areas and other training as your career develops.

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TO
A System 38,
RPG III Programmer
Wishing You a
Merry Christmas
and a Happy New Job
in
Bermuda

Our client, a subsidiary of one of the world's largest insurance groups, is in need of a programmer with at least one year's sound IBM System 38/RPG III experience to join its data centre team and take an active part in the development of a major new system.

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Business Systems Analysts

to £14,000 — **N. Herts**

Our Client is a multi-national Organisation and one of the largest Companies in its field worldwide, with assets in excess of £3,500m.

The Company is currently working on its long-term systems strategy, and in doing so has established a requirement for a number of Business Systems Analysts who are able to demonstrate good business sense, an awareness of the real needs of users, the ability to balance conflicting priorities in a positive, tactful manner, and, at the more Senior level, sound Project Management skills. Reporting to the Project Manager, Business Systems Analysts will enjoy high levels of user contact in a professional and interesting environment, where the prime objective will be to devise practical solutions to business problems.

An awareness of the implications and applications of computing will be a great advantage. The Company is moving further towards the widespread introduction of Personal Computing and distributed Word Processing and has created a corporate Data Model which defines data flows and functions within the business, using Yourdon Structured Analysis techniques. This will be used as a base for all future developments, ensuring product flexibility as well as facilitating integration of both clerical and computer procedures into one total system.

These challenging and involving positions will be of considerable interest to experienced Analysts, whether they be from a Business or D.P. background, who wish to become more actively concerned with the broader issues involved in applying modern technology to a progressive and well-resourced multi-national Company.

Career prospects are good and advancement into a Senior role will only be governed by the effort and application of the individual concerned.

Conditions of employment are excellent with modern and attractive working surroundings being supplemented by a low cost pension scheme with free life assurance, flexible working hours, four weeks annual holiday, free restaurant, an active sports and social club, full relocation assistance (including disturbance allowance and bridging loan if required) and a subsidised mortgage scheme after a qualifying period.

Overall, an extremely attractive prospect for suitably experienced and ambitious Analysts seeking a positive career move.

To apply, forward a concise CV to **Ian Payne**, Major Account Manager at the SCR Birmingham office or telephone **021-236 3781** for an application form.

Initial interviews will be held in SCR Regional Offices during the latter part of this month.

Technical, Sales & Management Appointments

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Specialist Computer Recruitment Ltd

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TECHNICAL SPECIALIST

HONEYWELL DPS 6 To £15,000 + CAR

Our Client is a well established Insurance company, part of a large British group. Their Data Processing department comprises 4 × DPS 6 Honeywell computers supporting a very large on-line underwriting/accounting system with over 100 TDS terminals.

They currently require a Technical Specialist whose responsibilities will include advising on hardware and software design for future extensive on-line projects and to co-ordinate the future growth with the efficient use of the current systems.

Applicants must have a sound DP background and possess extensive relevant experience.

In return our Client offers an excellent starting salary plus car and a superb benefits package which includes:

★ MORTGAGE SUBSIDY
★ MEAL ALLOWANCE
★ NON CONTRIBUTORY PENSION
★ FREE MEDICAL INSURANCE
★ 33 HOUR FLEXITIME WEEK
★ INSURANCE DISCOUNTS

If you are interested and would like further details please contact Mike Harmer. All replies will be treated in strict confidence.

Apex Computer Recruitment Ltd.
404 4821

Apex
London Office: 59 Grays Inn Road, London WC1X 8TL. Tel: 01-404 4821.
Brussels Office: Rue Gatti de Gamond, 24, Uccle 1180 Brussels. Tel: 010 322 377 4193.

SENIOR ANALYST/PROGRAMMER

HP 3000 c£13,000

Our Client is a Central London based financial concern, part of a UK multinational group. They currently utilise an HP 3000/40 but will be upgrading shortly to a 3000/42. Due to expansion within their market they wish to appoint a Senior Analyst/Programmer to take responsibility for existing and future systems development.

Applicants, probably in their late 20's or early 30's, will have a sound background in COBOL with some exposure to systems analysis. Any knowledge of HP systems and software will be advantageous although not essential as management ability is the essential criteria. The successful candidate can expect a high degree of user contact and must therefore be an effective communicator at all levels.

In return our Client offers a generous starting salary with the possibility of a company car and a move into a management position at an early stage. If you are self motivated and looking for a challenge in an expanding environment, call Mike Harmer for further details.

Apex Computer Recruitment Ltd.
404 4821

Apex
London Office: 59 Grays Inn Road, London WC1X 8TL. Tel: 01-404 4821.
Brussels Office: Rue Gatti de Gamond, 24, Uccle 1180 Brussels. Tel: 010 322 377 4193.

(7152)

your appointments register

Programmers

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COBOL/PL1/OS/CICS/IMS to £13K
Commercial H Counties Midlands Manchester

BASIC/PASCAL to £9K
Civil Engineering Surveying Kent

ICL/COBOL to £12K
Two years' commercial experience Notts

SYSTEMS PROGRAMMERS to £10K
Data Comm. On-line Systems Cheshire

RPG 2/3 to £14K
Minimum of a third year's experience Northants/Leicester/London/N.E.

SYSTEMS PROGRAMMERS MVS CICS to £17K
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(7239)

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  - DEC: VAX VMS, PDP 11 RSX-11M
  - IBM: CICS, CMS, IMS
- Degree level education
- Must be skilled in communications with manufacturing management, MIS personnel, designers and industrial engineers
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Interviews will be held week commencing 30th January 1984.
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OIR The Organization for Industrial Research

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All the vacancies are in London or the Home Counties, the contract periods are variable from three months upwards and the rates are negotiable dependent upon the level of job and the skills you can offer.

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Please telephone Barrie Frost or send your latest CV for immediate consideration.

(7237)

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We are seeking an individual with the following qualifications:

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(7222)

GRAMPIAN REGIONAL COUNCIL

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£15837 to £17082

New senior post, based in Aberdeen, following agreement by the Regional Council on a major planned expansion of information processing. Ref. 3/84CW.

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Applications, in TYPED FORM, giving full details of relevant qualifications, age, experience, present employment and salary together with names and addresses of 2 referees should be lodged with Director of Manpower Services, Woodhill House, Aberdeen AB9 2LU (from whom further details are available) NOT LATER THAN 30 January.

(7176)

SYSTEM/34 & /36

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Please send details of cv and other information considered relevant to the above company. Interviews will be held in London at the end of January, 1984.

(7211)

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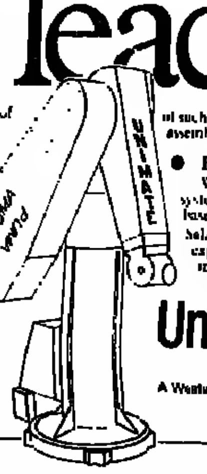

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(7179)

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Applications plus CV as well requests for information can be directed to our UK-representative, Yvonne Waddell, address: BSO/UK, Heathlands, Rockfield Road, Oxted RH8 OEJ, Surrey, telephone Oxted (08833) 6253 (day and evening).
The contact person in Holland is Robbert J. Schelekamp, personnel manager.

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It is impossible to specify the precise nature of each vacancy in this advertisement; in certain cases, specific expertise is required but for several of the openings, our clients are simply looking for sound general programming ability and either experience of or aptitude for analysis.

The requirements cover: –

IBM, IMS or CICS plus PL/1 or COBOL
IBM System 34 or System 38 plus RPG II or RPG III
DEC PDP 11/ under RSX plus BASIC or Series IV
NCR V-series or I-series plus COBOL or NEAT/3
Wang VS100 plus COBOL
Unix and 'C'
or
Any other mainframe or mini using COBOL, PL/1 or BASIC

With one year or more's experience of programming and a match with any of the above categories, we can assure you that your time will be well spent in contacting us. Naturally, your interest and details will be dealt with in the strictest of confidence.

Telephone Lynn Roylance for further information or send your CV to the Freepost address below for immediate consideration.

Allmand Computer Resources Ltd
ACR
Freepost
London EC1B 1PH
Telephone 01-638 8411
or 01-920 0801 (24 hr)
DoE Lic. No. SE 8583

(7238)

هذا من الأصل

Real Time Products Ltd.

PASCAL PROGRAMMER
£7,000 – £9,000 p.a.
CITY OF LONDON

Our clients are a small independent software house who have been established for five years. They have an excellent reputation for the quality of their work and due to an increase in their client base they are seeking to employ an additional programmer with PASCAL experience. The successful candidate will work within a small team developing bespoke and package systems for the commercial market.

The company has a policy of promoting from within and this appointment represents an excellent opportunity for a keen individual to advance his/her career whilst making a real contribution to a variety of projects. Experience of BASIC would be an asset and candidates should have a minimum of one year's PASCAL programming experience.

For further information please contact Chris Morrow on 01-837 0451 who will be pleased to discuss the post in greater detail.

TOTAL SELECTION LIMITED
388 CITY ROAD
LONDON EC1V 2QA
01-837 0451

MVS SPECIALISTS
for
SYSTEMS SOFTWARE DEVELOPMENT & SUPPORT
Surrey **to £20K + car**

MACRO 4 has been originating and marketing systems software to DOS(VSE) users with great success since 1968. We have our own 4341 dedicated to development and support of our products, which are marketed worldwide.

We are now entering the MVS market and require several experienced MVS Software Specialists to work initially on conversion and/or support of existing products, and subsequently on new products.

Prerequisites are a thorough knowledge of MVS structure (Internals knowledge would be an advantage), ability to write Assembler and a high level of self motivation.

In return we offer an excellent salary, non-contributory pension scheme, free BUPA membership plus the normal range of benefits associated with a successful company.

Write or phone Phil Heseltine or Terry Kelly at

Macro 4 Ltd, River House, Restmor Way, Wallington, Surrey. Tel: 01-669 0011

(7251)

M MACRO 4 LTD.

Communications Designer

BERKSHIRE **Up to £14,000**

A major manufacturer of minicomputers is seeking Programmer/Designers to develop communications systems. The project involves support, design and development of X25 Level 2 software and LAN Link level software for Unix System III-based workstation.

Candidates should have practical experience of X25/HDLC or similar protocols. Additional experience of Pascal, C, Unix is highly desireble.

Successful candidates will gain valuable experience in the implementation of the lower four layers of the OSI model including Network definition and control.

CW 2/4

Florida

NETWORKS/X25 **Up to $50k**

One of the world's most innovative producers of communications and information systems is currently seeking to recruit additional Comms experts to work at their laboratories in Florida.

The company is looking for experts with two main areas of expertise: Data communications specialists, requiring highly qualified candidates with experience of X25 and related protocols, package switching and network diagnostic equipment experience.

The second area calls for Network software specialists; at least two years' experience of VTAM, BTAM and NCP. Additional experience of a COMTEN or IBM 3705 hardware is desirable.

In addition to the technical skills to be gained, the company provides a comprehensive benefits and relocation package.

CW 2/10

DATAMATICS
RECRUITMENT SERVICES
01-399 9183
Datamatics, Freepost, Surbiton, Surrey KT6 5BR

Communications Manager

BERKSHIRE **Up to £18,000 + bonus + car**

The Computer and Communications Manufacturers Business Section of a major systems house have created a new Account Manager's position to assist in the development and management of this important business area.

This position calls for the combined ability of (A) selling/marketing the company's services and (b) a solid systems development background with more recent experience of communications systems, e.g. IBM Comms, ICL Comms, X25 and LANs. Finally, candidates should possess project management experience preferably with some financial and contractual responsibilities.

This position offers the successful candidate the platform to assume further business responsibility in the future.

CW 2/3

Coral/Mascot

LONDON/SURREY **Up to £15,000**

A leading consultancy commanding large contracts with the MOD requires professional Programmers and Software Designers to work on Realtime systems. Candidates should have a degree plus experience of Coral and preferably Mascot. Experience of Context and VAX machines would be helpful.

Successful candidates may look forward to enhancing their careers within an organisation proud of its reputation for professionalism and career development.

CW 2/5

C³ Development

LONDON/HOME COUNTIES **£16K + Package**

One of Britain's leading information systems contractors is seeking consultants for research and development on major C³ projects.

Candidates should have a numerate science degree and have at least five years' experience in Defence Communications, working on large projects like Ptarmigan, BATES, etc. Candidates should have a thorough understanding of communications systems, analysis and design.

CW 2/6

DATAMATICS
RECRUITMENT SERVICES
01-399 9183
Datamatics, Freepost, Surbiton, Surrey KT6 5BR

Automation Systems

CENTRAL LONDON **£8-18k**

The Industrial Group of a leading software company seek Junior Programmers up to Senior Consultants to assist in the immediate development of a number of new major contracts recently acquired.

Candidates suitable for the medium to senior levels should have significant experience in software design and/or project leading, particularly on projects using DEC and HP1000 machines. A minimum of four years' experience is sought in one of the following three areas: (1) Plant Control (warehousing, materials handling, process control), (2) Distributed Control (wide area networks, automated retailing systems), and (3) Software Technology (X25, ISO standards, Unix).

Programmers should have a degree plus a minimum of six months' experience. Project work will be as outlined above and candidates will ideally have worked on minicomputers, e.g. DEC, HP1000 and Gould SEL, using Pascal, Fortran and COBOL.

CW 2/7

Switzerland

TELECOMMUNICATIONS **ENGLISH SPEAKING**

An international telecommunications company in Switzerland is currently seeking Software Designers to develop TELETEXT applications based on Intel 8086s.

Candidates should have a Computer Science or similar degree plus two to three years' experience of microprocessors (ideally Intel), Assembler, and a high-level language (ideally Chill). Experience in Realtime communications, ideally X25, is desirable.

Successful candidates may look forward to enhancing their career prospects, gaining valuable experience in an international environment.

CW 2/9

DATAMATICS
RECRUITMENT SERVICES
01-399 9183
Datamatics, Freepost, Surbiton, Surrey KT6 5BR

Scientific Engineers

DORSET **Up to £11,000**

One of the country's leading software houses have recently opened an office in Dorset in order to service their local client base in the South-West of England.

In line with this expansion, our client currently needs a number of Engineers, from graduates up to experienced professionals, to assist them in their development projects.

Candidates should have a relevant degree together with one or more of the following skills: Fortran on ICL/IBM Scientific Applications, Z80, Unix, Operating Systems, Pascal, Coral, Meagot, Context, VAX/VMS, Fortran and General Software/Scientific Applications experience.

Successful candidates will work in-house or within easy travelling distance of the office.

CW 2/1

Hardware/Software Engineers

BERKSHIRE **Up to £12,000**

The Industrial Systems Group of a major systems company have an urgent requirement for a number of additional Programmers and Engineers to work on the design and implementation of a wide variety of Realtime systems. Applications include flight navigation, CAD, robotics, materials handling, ATE, communications and networks.

Based on a degree background, candidates should have a minimum of one year's experience of mixed hardware/software applications. Languages should include at least one of the following: Assembler, Coral 66, Pascal, PLM, Fortran, C and Ada.

Successful candidates will enjoy demanding work involving finding hardware/software total solutions to a variety of applications.

CW 2/2

European Careers

HOLLAND **£12.16K**

This Dutch division of a leading software consultancy is currently seeking additional Software/Analyst Programmers to strengthen a number of project teams involving a variety of communication systems.

Technical skills cover Realtime software, air traffic control, networks, defence, petrochemical, process control, DEC, RSX, micros and Assembler.

In addition to the above technical experience, successful candidates must demonstrate a willingness to take project management and client liaison responsibilities.

This is an excellent opportunity to develop your career towards consultancy, combining your technical and European language skills, team leadership and project management.

CW 2/

DATAMATICS
RECRUITMENT SERVICES
01-399 9183
Datamatics, Freepost, Surbiton, Surrey KT6 5BR

SYSTEMS ANALYSTS **To £13,000**
C. LONDON

This well known company is undergoing considerable expansion of its DP department and requires Analysts at various levels of experience. A minimum of one year's formal analysis gained in a commercial environment is required. Preference will be given to those with accounting application backgrounds. There will be a good deal of contact with management departments and candidates must therefore be professional in both appearance and attitude.

SYSTEMS MANAGERS **c.£11,000**
H'WELL L6+BCL

Two clients seek good Analyst/Programmers who wish to move into managerial positions. Firstly a company based in N. London is shortly to install a BCL MOLECULAR 18 and requires a person with experience of ASSEMBLER or similar language. Secondly, a site based in Bucks. with a HONEYWELL L6 seeks either COBOL or SCREENWRITE experience. Applicants should be able to work on their own initiative and preferably has some client/user contact experience.

PROGRAMMERS **c.£8,500**
MINI COMPUTERS

A number of Clients currently require Programmers with a minimum of 2 years experience in COBOL, FORTRAN or PASCAL. This will have been gained on any mini however special interest will be shown in those with knowledge of DEC VAX, PRIME, HP 1000 or GOULD SEL. Applicants should have a good educational background and be smart and ambitious. Most work will be in C. London with the occasional visit to client sites.

DEVELOPMENT **To £16,000**
DEC/COBOL

Continuing growth opens further S&P opportunities, with this nationally renowned Middx. based company. Utilizing VAX and PDP equipment for their advanced on-line systems development they require Programmers or Analyst/Progs. with two to three years' COBOL preferably gained in a VAX environment. At Team Leader level they seek a Senior Analyst with proven project design through implementation experience and good DEC systems exposure. A comprehensive benefits package is offered, to include bonus, relocation and with many positions a company car.

ALL LEVELS **To £16,000**
ICL/VME

An expanding Essex based company, committed to major financial systems development on ICL 2900 VME systems is seeking experienced ICL people at all levels. Progs. and Analyst/Progs. should have 18 months or more COBOL, the latter with some formal analysis. Analysts and above will have at least two years' systems exposure. Excellent salaries and prospects are augmented by a generous benefits package which includes a good bonus scheme.

PROJECT MANAGERS **To £18,000**
COMMS/BANKING

Two City-based Clients with heavy international commitments require Project Managers in the Banking and Communication areas. They seek in depth experience in either application area with micro experience especially relevant for the Comms. position. Basic salaries will be greatly enhanced by valuable and extensive benefits packages.

ANALYST/PROGRAMMERS **£10,000**
DATABASIC

A rapidly expanding software house is currently recruiting Analyst/Programmers with a minimum of 18 months DATABASIC from a Prime or CMC environment. The client actively encourages employees to service customers in a consultancy role therefore applicants should be presentable, confident and have the ability to deal with first time users. The client can offer job satisfaction, regular salary reviews and intensive training.

ANALYST/PROGRAMMER **£10,500**
RPGII/III

An international bank has identified a requirement for an Analyst/Programmer with a solid GSO background. The bank is an established 3B user but is quite prepared to consider two years' RPGII programming and will retrain to RPGIII. The department is fairly small and everyone is encouraged to have as much user contact as possible. As well as a good starting salary the client will offer a banking package to include a 5% mortgage.

PROGRAMMERS **To £11,500**
PL1

A company offering a range of financial services has several requirements for PL1 programmers. The minimum requirement is for 18 months PL1 in a commercial environment for the programming positions and up to four years' plus for the senior posts. Applicants should have good all round programming skills to include design, coding and implementation. Due to the size of the client there is a recognised career path which would lead through to systems if desired.

(7151)

404 4821
Apex
Apex Computer Recruitment Ltd.
London Office: 59 Grays Inn Road, London WC1X 8TL. Tel: 01-404 4821.
Brussels Office: Rue Gallait de Gamond, 24, Uccle 1180 Brussels. Tel: 010 322 377 4193.

Deputy DPM

Richmond-upon-Thames

£13,500+car

Our client is a manufacturing company within the light engineering industry, part of an international group which is itself a public company. Their very well-established DP department (small, friendly and closely-knit) already has a good reputation within the company, having successfully implemented both major and minor projects, which include the accounting functions and order-processing. They are currently undertaking Production Control/Inventory Management, which will be both on-line and Database. The environment is:

- NCR 8555 • VRX COBOL
- TRANPRO • TOTAL

A very good knowledge and experience of this environment is essential as a major requirement for this appointment is the willingness to tackle day-to-day problems "hands-on." This is in addition to the full range of analytical and programming skills, from feasibility studies through to implementation, together with the personality to liaise with users at all levels, including Directors. Knowledge of NEAT/3 and OLCP would be very useful.

The company offers 5 weeks holiday, subsidised lunch and adequate parking facilities.

Please contact Joan Ainsworth on 01-681 8311 or write to her at Computer Search and Selection, Carolyn House, Dingwall Road, Croydon CR0 9XF.

Computer Search & Selection

alba

Aluminium Bahrain (ALBA) is the major aluminium producer in the Arabian Gulf. Established in 1969, the company now employs some 2,000 local and expatriate staff. We now seek a:

Specialist in Process Automation

around £26,000 net of tax† **BAHRAIN**

The Smelter Reduction Department operates 608 electrolytic cells all of which are controlled by Modcomp IV computers.

The successful candidate will help ensure reliable operation of the present control system, plus implement improvements, by designing and writing software (Fortran/Assembler) based on established user requirements. He will also work with hardware maintenance groups to ensure high levels of reliability.

Extensive experience in on-line control systems is a requirement of the job. In addition, previous experience with Modcomp computers would be a distinct advantage, ideally in an Aluminium Smelter or similar industry.

Earnings, at present tax free and freely transferable, will be around £26,000 (†calculated at current exchange rates) including allowances and end of contract bonuses. The position is offered on a 3 year fixed term contract basis - married or single status.

In addition, substantial benefits include: * 32 working days' annual leave plus 12 days' public holidays * rent free furnished air-conditioned bungalow * full recruitment and repatriation expenses * annual return airfares for employee and family * free education for children * free medical care and life assurance.

Bahrain is a stable country with a liberal government. English is widely spoken and the Company is experienced in the rapid and smooth entry of expatriate staff into the local community. Extensive sports and social facilities exist.

Please write with full details to: Mr. K. W. Rowe, Alba Smelter Services Limited, Standbrook House, 2-5 Old Bond Street, London W1X 3TB.

7209

SOMETHING TO BUILD ON

UNIX: SOFTWARE TOOL DEVELOPMENT

THE CHALLENGE

is a vacuum. A vacuum soon to be filled with UNIX software technicians of the highest calibre joining a new company about to take the software tools market by storm.

Have you got what it takes to be part of this new team? Can you work at the forefront of software technology to create the products on which the success of the company will be built?

The new company has the backing of one of the world's most successful high technology organisations. Major contributors to the development of computing, they are now entering the growing market for software products with a high level of investment in people and facilities to ensure success.

UNIX will be the first development area and we are looking for experienced software engineers with the knowledge and personality to make a positive contribution.

THE OPPORTUNITIES

PROJECT LEADER	circa £16,000pa
SOFTWARE DESIGNERS	£12,000pa-£15,000pa
SOFTWARE PROGRAMMERS	£7,500pa-£12,000pa

Successful applicants will have at least a degree and will certainly have experience of UNIX or related software. They will be self-motivated, innovative, professional and capable of taking conceptual ideas and developing creative but robust software tools.

For the more senior positions applicants should have experience of software tools, product development, team leadership and possess the communications skills needed to liaise with clients, the marketing function and other computing professionals.

THE FUTURE

The expanding market and a growing company will provide excellent career prospects for those in at the start. Initial salaries and later progression will be dependent entirely on merit. The excellent benefits package includes generous holidays, contributory pension and health schemes and relocation assistance will be available if appropriate.

The company's prestigious headquarters are located in London's Covent Garden with its fascinating atmosphere of market, restaurants and street theatre close by the cinemas and theatres of the West End.

If you are ready to build on your existing experience in an exciting environment, telephone now or post the coupon and we will send you an Application Form and Company Profile.

Please send an Application Form and Company Profile to: 0408

Position applied for _____

Surname _____

First names _____

Full address _____

_____

Home tel _____

Work tel _____ Ext _____

RJB MANPOWER SERVICES LTD
FREEPOST 24, London W1E 5JZ.
Telephone: 01-439 8991 (24 hour answerphone)

SYSTEM/34 OR SYSTEM/38 RPG PROGRAMMERS

West Sussex/Surrey £7-£10,000

Having completed the conversion from IBM System 34, this company currently requires 2 RPG Programmers to enhance and develop new systems on their System 38. If you have a minimum of 6 months RPG II on GSD machines and possess the potential to progress your career, or alternatively already have System 38, RPG III experience, you will be of great interest to our clients.

Please contact PETER HENNESSEY at KPG on 01-948 5922 or on Crawley 516322 (evening & weekends). Ref. 8354PH.

KPG
01-948 5922

KPG COMPUTER SUPPORT SERVICES LTD.
Cobden House
Park Lane, RICHMOND
Surrey TW9 2RA 0279

PROGRAMMERS

Two Programmers are required, with a minimum of three years' Cobol experience, to work on applications on our IBM 4331 and ICL 2904 and ORS 20 equipment.

For the IBM systems CICS experience would be an advantage although training will be given where necessary.

Both positions involve work on development and maintenance projects. Applicants should be self motivating and have experience in problem determination.

We offer a good salary according to age and experience and the conditions of employment are excellent.

Please apply to:

Miss Jill Cooper, Personnel Manager,
ARISTON DOMESTIC APPLIANCES LIMITED, Ariston House, London Road, High Wycombe, Bucks. Tel: High Wycombe (0494) 33466. (7278)

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ab executive (kingston) ltd
59 Eden Street, Kingston-Upon-Thames, Surrey. Tel: 01-549 6441 (24 hrs)

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PRODUCT SPECIALIST

to spearhead a new division recently launched to rent and sell computer peripherals. Experience in sales and a knowledge of peripherals from manufacturers such as DEC, HP, Lear Siegler, Memsemann Tally and Tektronix would be an advantage; it is envisaged that this division will grow rapidly and this vacancy offers an exciting opportunity for a dynamic person. The successful applicant will answer directly to the Sales and Marketing manager with an open ended commission package giving on-target earnings around £18k p.a. plus a company car and excellent fringe benefits.

Phone or write to: Mrs W. Walker
INSTRUMENT RENTALS (U.K.) LIMITED
Lab House, Horton Road, West Drayton, Middlesex UB7 8EA
01-897 2434

(7258)

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FROM ONE YEAR'S PROGRAMMING UP TO SENIOR SYSTEMS ANALYST, URGENTLY REQUIRED

My Client offers the opportunity to develop your DP skills in a new, progressive Division committed to the latest advances in modern technology.

This Internetional Benking Orgenisetion is on Phase One of a new project to develop e Security Trading System being implemented on lerge minis. Benking experience is useful but not essentiel, though you must be able to work under pressure and to time schedules in a teem of 12. My Client offers career prospects as well es the usual benking benefits which include mortgege subsidy, free pension, interest-free season ticket loan, etc.

PLEASE CONTACT JILL HARVEY OR JIM CHRISTIE, CPS, COMPUVAC HOUSE, 121-125 CITY ROAD, LONDON, E.C.1 (next to Old Street Tube, exit 1), OR SEND CV TO COMPUVAC FREEPOST EC1B 1EN. TELEPHONE: 01-253 5042 (10 lines, 24 hours) OR 01-250 0456.

The above is one of many UNIX and "C" vecancies we have in London and the Home Counties, in both Commercial and Scientific/ Technical environments. There ere elso hundreds of other positions aveilable requiring skills in other languages and computers in our Commercial MIni/Micro and Scientific/Technical Divisions.

IBM

IBM SYSTEMS PROGRAMMERS
£12,000 TO £19,000 + BENEFITS

A lerge number of our mejor IBM clients ere currently looking for experienced Systems Programmers. You will have a minimum of two years' experience either on OOS/VSE and VM Systems or MVS systems. Ideally using COBOL or ASSEMBLER lenguages and associeted softwero including CICS, OL1. Any Communications/Networking experience would be extremely advantegeous in some cases. Ref: I1/CW.

IBM COBOL PROGRAMMERS
TO £12,000

If you have et lesst one yeer's programming experience using IBM COBL either on DOS or MVS systems and would like to move into e stimulating devetopment environment, e number of companies based in Central London would like to hear from you. More senior Programmers will have at lesst one yeer's knowledge of CICS/OL1 or eesociated on-line systems. Ref: I2/CW.

PL1 PROGRAMMERS
TO £11,500 + BENEFITS

A ferge financial organisetion beesd to the North of London ere looking to recruit experienced PL1 Programmers with at lesst two yeers' experience working on OS/VS1 or MVS systems. You should also be familiar with program design, coding, tasting, etc., and be eble to essist junior staff with problem solving and training. A generous benefits package is offered, including a mortgage subsidy and relocetion expenses. Ref: I3/CW.

IBM ANALYST PROGRAMMERS
£11,000-£13,000

Experienced Analyst Programmers are urgently sought by three large IBM users in the Commercial Sector. Suitable applicents will heve two yeers' + experience es an Analyst Programmer, at lesst one of which will have been in an Analysis environment. Essential requirements include IBM 4300 experience on MVS systems using COBOL. Exposure to CICS and OL1 would be a distinct edvantage. Ref: I4/CW.

CONSULTANT ANALYST PROGRAMMERS
£10,000-£14,000

Three of the largest Consultancies in and around Central London require experienced IBM Analyst Programmers who have worked on the mainframe side together with some exposure to mini or micros. Language experience should include COBOL, BASIC and ASSEMBLER. Any experience or interfacing between mainframes and mini/micro equipment would be extremely useful. Ref: I5/CW.

OTHERS

HONEYWELL **TO £11,000**

Vacancies in W. London, Bucks, Surrey, Kent, at all levels for Programmers with sound GCOS skills, particularly TOS and IOS. Perks include bonus scheme, cars, etc. Programmers with GCOS/NETWORKING Technical Skills are particularly sought. Ref: 01/CW.

ICL 2904 AND 2900 **TO £12,000**

Numerous vacancies at all levels for sound ICL Programming skills. Particular requirements are for VME/B skills coupled with IDMS and/or TP. Numerous opportunities in the 2904/ME29 area – again TP skills are valuable. Some requirements for S10/S25 talents also. Environments cover manufacturing, commercial and finance/banking. Ref: 02/CW.

UNIVAC **TO £10,500 + PERKS**

Analyst/Programmers with Database and/or On-line skills, minimum two years' experience in commercial or manufacturing environment. Also some opportunities for people with good 1100 experience to move into finance/insurance. Ref: 03/CW.

ME29, TPS **£8,000 TO £10,500**

Three positions in a Financial/Insurance environment running duel ME29s. Ideally you will have TPS experience but training will be considered for experienced COBOL Programmers. Salaries are negotiable and excellent benefits package applies. Ref: 04/CW.

IMMEDIATE CONTRACTS!

Burroughs, all levels, med. Systems, COBOL, OMSII, GEMCOS, 6 months. B20, Analyst/Prog., COBOL/PASCAL, Commercial, 12 months+. PL1, MVS, Analyst Prog., Commercial, V/urgentIII Analyst, Total Database, ICL, VME/B, Commercial, 6 months+. Analyst Progs, COBOL, OOS/VSE, Comm/Financial, 6 months,

FOR THESE AND MANY MORE CONTACT SIMON FOSTER

IBM

IMS PROGRAMMERS AND ANALYSTS **TO £16,000 + BENEFITS**

One of the leading Banking organisations is currently looking for IMS specialists to work in their development area on large financial systems. Candidates should have a proven track record using IMS DB/DC and been programming in COBOL and/or MKIV languages. Previous banking experience in a related environment would be highly advantageous. Ref: I6/CW.

IBM BUSINESS ANALYSTS
£10,000-£15,000

A large Engineering Company based near Central London wishes to recruit Commercial Analysts with two-four years' experience gained on IBM MVS systems. You will have come from a programming background using COBOL and ASSEMBLER and probably CICS. The positions would necessitate exposure to FOCUS and, though this is not obligatory it would be a decided advantage. Ref: I7/CW.

IBM DATABASE ANALYSTS
TO £14,000

This financial organisation is looking for experienced Database Analysts and Co-ordinators with a sound Commercial background of at least five years. Your mainframe experience must include PL1, CICS and IMS and you will have had first-hand exposure to the physical design of a database, probably using DATAMANAGER or similar software. Ref: I8/CW.

IBM SYSTEMS DESIGNERS
£10,000-£13,000 + BENEFITS

Potential candidates must have five years' + experience in DP with at least two/three being involved in analysis and design. A programming background using PL1 on OS/VS1/MVS systems is preferable due to the technical content of the job and on the analysis side you must have seen a major project from feasibility through to implementation. Ref: I9/CW.

GSD PROGRAMMERS & ANALYST PROGRAMMERS
£8,000-£13,000 + BENEFITS

There is currently a wide range of opportunities in all environments for GSD people. Programmers with System 34 and/or System 38 experience are urgently required in Consultancy and end-user locations to work on different developments which include manufacturing, financial and commercial systems. We also require Programmers and Analyst Programmers to work in major banking installations. All positions are based in the London area. Ref: I10/CW.

(7182)

CPS RECRUITMENT CONSULTANTS

TELEPHONE
253 5042
10 LINES (24 HOURS)
OR 250 0456

COMPUVAC HOUSE
121-125 City Road, London, E.C.1
(NEXT TO OLD STREET TUBE EXIT) OR SEND C.V. TO
COMPUVAC FREEPOST EC1B 1EN

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GWENT COLLEGE OF HIGHER EDUCATION

FACULTY OF INFORMATION SCIENCE AND SYSTEMS TECHNOLOGY

SENIOR LECTURER IN COMPUTING

Applicants should be graduates with a broad experience of computer science and able to offer a high level of expertise in particular areas. Teaching experience at HNC/HND or degree level is desirable.

Salary: £7,215-£13,443.

Further details and application forms may be obtained from, and should be returned within ten days of appearance of advertisement, to: **The College Secretary, Gwent College of Higher Education, College Crescent, Caerleon, Gwent, NP6 1XJ.**

(7248)

Metropolitan Borough of Calderdale

Computer Manager

Salary – £15,033 pa to £16,005 pa

We are looking for an experienced data processing professional with management experience to manage and lead the further development of computer services in a major local authority.

THE POSITION

The computer service is given from within the council's Finance Department and the successful candidate will be responsible directly to the Chief Financial Officer for all aspects of the computer operation and development. The section comprises a staff of 40 and computer applications are operating within all departments of the council.

THE COMPUTER

The council presently has a Honeywell Level 66/OPS44 computer with an expanding terminal network. The emphasis of present and future development work is on systems using database and TP techniques. It is the council's policy to encourage the use of microcomputers and to ensure their ability to link to mainframe.

Prospective applicants wanting further details can obtain them by either ringing the computer manager (Halifax 57257 ext 3582) or by writing to the Chief Financial Officer, PO Box 51, Princess Street, Halifax, West Yorkshire HX1 1TP, marked for the attention of the computer manager.

Detailed applications for the position should be sent to the above address by January 28, 1984.

(7184)

University College of Swansea

Department of Electrical and Electronic Engineering

Applications are invited for a post of Lecturer in the Department of Electrical and Electronic Engineering. Applicants should have research interests in one of the main research areas of the Department: Microelectronics, Computer Engineering and Signal Processing, Communication, Control and Instrumentation. Preference will be given to applicants with research interests in Computer-Aided-Design in one or more of these areas.

The appointment will commence on the soonest date that can be arranged, and will be on the scale £7,190-£14,125 per annum plus USS/USDPS benefits.

Further particulars and application forms (2 copies) may be obtained from the Personnel Office, University College of Swansea, Singleton Park, Swansea SA2 8PP, to which office they should be returned by Friday, 17 February, 1984.

(7132)

EXETER CITY COUNCIL

PROGRAMMER

Required in the Computer Section of the City Treasurer's Department to assist with the programming and developing of specific systems.

Sound experience in computer programming (particularly BASIC) is regarded as essential, rather than experience in the public sector or with CMC machines.

Salary negotiable within the scale £7181-£8712

Further details and an application form are available from the Personnel Officer, Civic Centre, Dix's Field, Exeter (Tel No Exeter (0392) 77888 Extn 2125) to whom completed forms should be returned by the 23rd January 1984.

(7...)

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Post Reference No. P.CU.18

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The post is graded at Scale 4-6 and the salary, according to qualifications and experience, will be on the following scale. £6,264-8,712 per annum.

Application forms and further particulars from the Personnel Section, Teesside Polytechnic, Borough Road, Middlesbrough, Cleveland TS1 3BA. Telephone (0642) 218121, Ext. 4114.

Closing date for applications – January 31, 1984.

(...)

UNIVERSITY OF NEWCASTLE UPON TYNE
NORTHUMBRIAN UNIVERSITIES MULTIPLE ACCESS COMPUTER

PROGRAMMING ADVISER

(FOR MICROPROCESSORS)

Applications are invited from graduates to join a small group in the Computing Laboratory investigating and advising on the use of microcomputers in the University. The University is in the early stages of moving to a distributed computing system where microcomputers, from the home computer through the office word processor to the sophisticated workstation, are going to play an increasingly important role. Knowledge of the micro market and experience with hardware would be an advantage. The appointment will be made on one of the following scales according to age, qualifications and experience: Range IA £7,190-£11,615 per annum, Range II £10,910-£14,125 per annum. Further particulars may be obtained from the Deputy Registrar (I.P.), The University, 6 Kensington Terrace, Newcastle upon Tyne, NE1 7RU, with whom applications (three copies) together with the names and addresses of three referees should be lodged not later than January 31st, 1984. Please quote ref. CW.

(7228)

Senior Technician

Computer Laboratory

£6061-£6493pa inc.

To take responsibility for the day to day operation of the computer laboratory in the Polytechnic's School of Geography and Planning including maintaining, servicing and extending existing facilities and developing new systems.

Write quoting ref F306 to Personnel, Middlesex Polytechnic, 114 Chase Side, London N14 5PN

Closing date 23 January

Middlesex Polytechnic

SENIOR COMPUTER OPERATOR

required in Centre for Computing and Computer Science to work on a two shift basis involved in the operation of a Honeywell Multics OPS 8/70, DEC 2060 and associated networking equipment. Applicants should have three years' large mainframe experience and educated to O level standard. Salary scale £5,806-£6,798 p.a. plus shift allowance.

Application form from Assistant Secretary, Personnel Office, University of Birmingham, P.O. Box 363, Birmingham B15 2TT, Ref. 680/c/208.

(7244)

UNIVERSITY OF DUNDEE

PROGRAMMER/ANALYST

Applications are invited for the post of Programmer/Analyst in the Data Processing Office of the Secretary's Department.

The Data Processing Office operates a Honeywell OPS/4 (768K bytes main memory, 240 mbytes on-line storage operating under GCOS4) and is involved in maintaining and developing systems on a wide variety of topics relating to University Administration and Finance. Honeywell's IPS on-line software is used extensively.

Ideally candidates should have had working experience of COBOL and IPS and if possible RPG II.

Salary will be on the Administrative Staff Scale 1B, £6,310-£9,875, depending on previous experience.

Further particulars are available from the Personnel Office, The University, Dundee DD1 4HN where applications, giving full career details and the names of three referees, should be sent as soon as possible. Please quote Ref. EST/81/83CW.

(7046)

University of Liverpool

Computer Laboratory

HARDWARE ENGINEER

Applications are sought from graduates with experience in micro electronic hardware design and construction to assist in developing the hardware aspects of the computing service, particularly in the field of microcomputers and communications. A good first degree in Electronics or related subject essential.

Salary on scale £7,190-£11,615 with possibility of promotion to scale to £14,125 p.a.

Further particulars and application forms may be obtained from The Registrar, The University, PO Box 147, Liverpool L69 3BX.

Applications close on January 31, 1984.

Quote ref: IV/198/CW

(7...)

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(University of Manchester)

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We are looking for a graduate with a substantial practical knowledge of FORTRAN and BASIC.

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(7194)

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(7255)

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This is a company where the salesman is king. Indeed, all the company directors have distinguished records of success in territory sales. Mind you, you have to be good! No matter how accomplished you are you will have to learn some new selling techniques and conceptions, which will necessitate extensive and continual training.

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Please contact in the first instance: Gertie Petit on 01-952 8092 (office hours) or 01-868 0355 between 6-9 pm.
Employment Business Section

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Medium sized manufacturer based in Runcorn, Cheshire requires an

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with minimum of three years' experience in similar capacity

The company is currently reviewing all aspects of data processing, office automation, and updating of existing computer facilities.

The position would ideally suit person with RPGII programming experience in a manufacturing environment.

Applicants should be able to communicate with personnel at all levels and demonstrate sound analysis techniques in a small department involved with all aspects of in-house development work.

Candidates should be 20-40 years of age and have a flexible and enthusiastic approach to the work covered by the above job title

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Please write with full personal and career details to:

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SALES BIT

Quality of Management – 78

Be positive when out with your salesmen

LAST week I ventured to suggest that the absence of a sales training budget or the lack of internal training facilities does not negate the sales manager's responsibility for providing sales training. I discussed the benefits of field sales training for salesmen and sales manager alike as well as mentioning some of the lame excuses that are often put forward for avoiding this demanding yet rewarding process.

This week, I would like to continue this discussion by proposing a few guidelines for those sales managers who are about to grasp the nettle of getting out into the street with the troops.

I hope I can also generate some reconsideration of present methodology on the part of those sales managers who do go out with their sales people, particularly those who to all intents and purposes only go along for the ride.

The first thing to remember is that the call belongs to the salesman, not you. There are bound to be occasions within almost every call when it is obvious that the salesman is doing the wrong thing. The possibilities are too numerous to mention!

The very worst thing you can do is jump in with both feet and put the salesman right. It makes him look foolish and inadequate and reduces his confidence as well as reducing the credibility of your company and product in the eyes of the potential buyer. Far better let him make the mistake and take

Attempt to offset each mistake with a good point

note of it so that you can discuss it after the call.

Of course there have to be exceptions, but where they occur they have to be handled properly.

As I have already said, it's the salesman's call and therefore the position of the sales manager should be in the background, not the foreground, he should be an audience not an actor. It must also be remembered that no matter how good your relationship with the salesman might be, he will not be at his best whilst you are with him. He is being watched and he knows it.

He will have an exaggerated perception of his mistake which will tend to make him more nervous and over-reactive than he would ever be on his own. In other words, it is almost certain you are not seeing him at his best, and very likely he believes he is operating at his worst.

There is, however, a situation much worse than putting the salesman right in front of a client, and that is taking over the call completely because he is handling it badly. Unless you want to entirely destroy the salesman's belief in himself, don't do it!

On the other hand, what you must do is make it clear to the salesman right from the very outset that if he feels he is getting into trouble within any sales call he is free to bring you into the discussions or ask for your advice. The difference between involvement in the sales call as a result of the salesman's invitation as opposed to actively getting involved yourself is the difference between constructive training and destructive interference. It doesn't take much to realise which is best for customer, salesman and manager alike.

One very important discipline for all sales people is to develop the habit of considering the objectives of every sales call before entering the client's premises and to review the outcome immediately after it is made, including the production of a call-report that covers all the key

The first thing to remember is that the call belongs to the salesman, not you

factors of the meeting.

Consequently it is essential that this responsibility is emphasised within field sales training process by ensuring that before each sales call is made the salesman is asked, "Why are we making this call?" Hopefully you will be spared the obvious facetious responses and establish some sensible objective.

Whatever happens, you have to take whatever steps are necessary to overcome the common malaise of thinking it's Wakefield so it must be Wednesday.

Similarly, it is essential to spend some time discussing what happened within the call, above all, remembering to mention the good points as well as the bad, the strengths as well as the weaknesses. There is nothing more likely to completely destroy a salesman, who is more aware than anyone else that he has made a mess of things, than going through each blunder step-by-step and thrusting them down his throat.

Wherever possible, attempt to offset each mistake with a good point with the overall objective of emphasising more good than bad within each call that is analysed. Furthermore, don't simply pick up the errors and put them on display, that's easy. As a sales manager you ought to be able to counter each criticism with positive advice on how it should be done. If you can't, but still think it is necessary to highlight the problem, then make it a point of discussion rather than making a bald statement of condemnation.

In fact, it's a question of treating the salesman like you would expect him to treat your customers, with respect, without confrontation, with fairness and above all in a constructive, considerate, encouraging and intelligent manner.

Alan Williams

PUZZLE ANSWER

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